



Strategic Business and IT Alignment: The Role of the Contemporary CIO and the Effect of its Leadership Characteristics on Alignment Barriers

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<p>Abstract:</p> <p>The alignment of business strategy and IT strategy has become necessary because technological advancement has changed the ways businesses behave in order to stay competitive in the global village. No single application, however sophisticated and state of the art it may be could deliver a sustained competitive advantage (Henderson and Venkatraman, 1993, 1999). Nevertheless this process of applying IT in an appropriate way and in harmony with business strategies, goals and needs has been marred by many inhibitions/barriers (Papp, 1998; King, 1995; Watson and Brancheau, 1991) which needs looking into. This situation calls for the attention of the Chief Information Officer (CIO) whose role has become more of a strategic visionary than technical-oriented.</p> <p>The aim of this study is to find out how the CIO's role change has been influenced by the leadership characteristics originally engrained in the CIO leadership. The leadership roles as influenced by Kotter's three leadership characteristics of setting direction, aligning people and motivating and inspiring people could help CIOs to be effective which could translate into reducing or eliminating the barriers to alignment. The empirical method was an explanatory case study of seven reputable companies of which six are in Finland and one is in Germany. This took the form of a semi-structured face-to-face interview with the CIOs except the one company in Germany which took place in the form of a telephone interview.</p> <p>The result shows that today's CIO has a proper understanding of and exercises its leadership roles. Secondly, none of the CIOs is actively involved in the daily technical operations of their respective organizations but are more involved in business strategic and transformational roles. Thirdly, the CIOs are driving the business strategies of their respective businesses towards the ultimate of achieving competitive advantage. CIOs are ready to work closely with the business to achieve their goals when allowed. Lastly the barriers as compiled years ago are not the same today as CIO role change has affected them. What business needs to do is to adopt a strategy of openness to embrace the CIOs, try to understand IT and not to shove it aside and give their full backing and support to the CIOs.</p>	
<p>Keywords: Business Strategy, IT Strategy, Alignment, CIO, Leadership, Barriers, Setting Direction, Aligning People, Motivating and Inspiring .</p>	

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LIST OF ABBREVIATIONS

BIT - Business and Information Technology

CEO – Chief Executive Officer

CIO - Chief Information Officer

COO – Chief Operating Officer

CSF - Critical Success Factors

C-level – Top Level Executives Positions

ERP – Enterprise Resource Planning

IS leadership - Information Systems Leadership

IT - Information Technology

MIS – Management Information Systems

MRP - Manufacturing Resource Planning

SAM - Strategic Alignment Model

TMT – Top Management Team

1 INTRODUCTION

This first chapter discusses the research background and presents the research objective and the empirical method of the study. The structure of the thesis is also outlined at the end of the chapter.

1.1. Background

Over the years, especially in the last two decades, there has been a rapid technological advancement that has changed the way businesses behave. The need to strive for excellence and to stay competitive in a globalised world has also been spurred by the same advancement in information technology (IT). A situation has therefore arisen where there is the need for the strategic integration of business with information technology. It is in view of this that most organizations are trying to implement IT governance with varying supporting models in order to be able to achieve one of the ultimate goals of aligning business and IT as well as gaining the support of top management and the board. Looking at the contemporary business world there are no professionals who are better placed to spearhead this integration/alignment than IT professionals.

According to Henderson and Venkatraman (1993, 1999) no single IT application, however sophisticated and state of the art it may be, could deliver a sustained competitive advantage. Rather, advantage is obtained through the capability of an organization to exploit IT functionality on a continuous basis. The issues of alignment has received much attention due to the fact that it has brought improvement in business performances, which is very much needed because of the globalization issues and the need to stay competitive. Aligning business and IT strategically provides collaborative solutions that add value and competitive positioning to the enterprise's products and services, contain costs while improving administrative efficiency and managerial effectiveness (ITGAF 2006). However, the alignment process or story has been marred by many inhibitions/impediments which needs looking into. This situation calls for the

attention of the Chief Information Officer (CIO), whose role changes from technical to strategic. Moreover, the leadership skills of the CIO, when properly exercised, could be able to close the business and Information Technology (BIT) gap. With the change in role from a technical officer to a strategic visionary, IT is expected to be at the forefront of the strategic business and IT alignment to pursue this course of action successfully for organization's benefit.

Nevertheless, there are many barriers to achieving both intellectual and social dimensions of alignment and the prerequisite is a strong CEO–CIO relationship (Feeny et al. 1992). Additionally, the personal characteristics of the CIO is needed for long term success and that to be a CIO requires individuals who are highly skilled, self-confident and robust during rough times. The continuous evolving nature of the CIO roles requires dynamism and multiple skills from the individuals who hold them (Remenyi et al. 2005). Various literatures have tried to bring an understanding of this to bear and tried to find ways of successfully achieving this all-important integration. Also Karahanna and Watson (2006) argued that “CIOs are expected to be business partners who understand the business aspects of the organization” and “Given that IS permeates all business functions, the CIO ideally needs to also have a holistic understanding that crosses functional boundaries” being some of the distinctive aspect of Information Systems (IS) leadership. That leading role that IT needs to take rests on the topmost position in the role of IT and that is the CIO.

There are many forms of alignment such as strategic or intellectual, structural, social, and cultural mentioned in the management information systems literature. The most received area of attention however has been the strategic IT alignment (Chan and Reich, 2007). The strategic alignment model (SAM) proposed by Henderson and Venkatraman (1993, 1999) has been widely used and forms the basis of most academic literature in strategic IT alignment.

Those organizations that have been successful as leading organizations have certain operational and structural environment as well as certain principles in place that causes the top level executives to render their support to the CIOs. These operational and

structural environments are a result of IT governance that gives the backing of the CIO to other executives. IT Governance ensures the fusion of business and IT (Van Grembergen W., 2002). Additionally, these organizations have clearly defined roles and authorities with which they carry out their duties. These successful organizations also include their CIOs in their executive business decision-making. On the contrary, those organizations with CIOs whose status is viewed as support function and are often excluded from strategic and policy making decisions do not reap the benefits of business and IT alignment (GAO Executive Guide, 2001).

1.2. Research Objective

The purpose of this research is (1) to find out about the leadership roles contemporary CIOs play in their organizations, 2) to examine the impact of the characteristics of those leadership roles in reducing or eliminating the inhibitors of strategic business-IT alignment. Three leadership characteristics established by Kotter (1999) who is regarded as an authority on issues of leadership and change and a professor at the Harvard Business School, is used in this literature. Selected companies in Finland and one in Germany are used as a case study. One of the barriers to alignment “IT Management lacks leadership” will be dropped from the analysis and discussion as the topic is about IT leadership.

The CIO referred to in this thesis is defined as “the highest ranking IT executive who typically exhibits managerial roles requiring effective communication with top management, a broad corporate perspective in managing information resources, influence on organizational strategy, and responsibility for the planning of IT” and “to increase the organization’s information intensity and a competitive advantage” (Gottschalk, 2007). The leadership qualities of the CIO originally engrained in the title has either been misunderstood or has not been exercised at all (Gottschalk, 1999).

1.3. Research Method

A qualitative research that involves the use of interviews was employed in selected organizations in Finland and one in Germany. Initial letters were sent to CIOs in companies across industries mostly in the greater Helsinki region of Finland using Hanken's emailing system.

1.4. Structure

The study will consist of a literature review which will form the theoretical basis of the study and an empirical study. The theoretical framework will cover chapters one to four. Chapter one will have the introduction in addition to the background of the research, objective of the research as well as the empirical method and the structure as being described. Chapter two discusses the strategic alignment between business and IT, its connection with IT Governance and how it has impacted on the need for and the changing roles of CIOs. The need, evolvement and leadership role of the CIO are discussed in chapter three.

The empirical part of the thesis will begin from chapter four where the methodology of the research and the research model will be presented. The response will be analyzed in chapter five in addition to the validity of the study. Finally the last chapter, chapter six, will present the conclusion, implications, validity and recommendations for future studies will be proposed.

2 STRATEGIC BUSINESS AND IT ALIGNMENT

The role of IT in organisations, its importance and counter arguments of strategic business and IT alignment as well as the critical success factors and inhibitors to alignment are discussed in this chapter.

2.1. Definitions of Business Strategy and IT Alignment

There are various definitions of strategic business and IT alignment. Reich and Benbasat (1996) defined alignment as the degree to which the mission, objectives, and plans contained in the business strategy are shared and supported by the IT strategy. Sauer and Yetton (1997) argue that its basic principle is that IT should be managed in a way that mirrors management of the business.

Strategic alignment between business and IT occurs when IT is used to dynamically create and exploit business opportunities. It can be used to transform business processes and also to create business dislocations in the market place (Boar, 1994).

Henderson and Venkatraman (1993) state that alignment is the degree of fit and integration among business strategy, IT strategy, business infrastructure, and IT infrastructure. An argument raised by McKeen and Smith (2003) is that strategic alignment of IT exists when an organization's goals and activities and the information systems that support them remain in harmony. Good alignment means that the organization is applying appropriate IT in given situations in a timely way, and that these actions stay congruent with the business strategy, goals, and needs (Luftman and Brier, 1999).

2.2. Previous Research on Strategic Business and IT Alignment

2.2.1. *The foundation of Strategic Alignment Models (SAM)*

Henderson and Venkatraman (1999) developed a model for conceptualizing and directing the emerging area of strategic management of information technology. The purpose of the study was to develop a conceptual model which has come to be widely used to explain the emergence of IT from the traditional static role to a role based on dynamism to meet the changing needs of today's business environment. Their study was the first of its kind to conceptualise and come up with a framework for strategic alignment. The conceptualised model developed, Strategic Alignment Model (SAM), called for a fundamental shift in the focus of the IS function from an internal orientation toward one of strategic fit within the IT domain, namely, recognition of the external IT marketplace in terms of the scope of the technologies, the desired level of competencies, and the locus of governance. This shift is important if we consider that IT has the potential to shape business competencies and actions in the product-market arena (Henderson and Venkatraman, 1999)

Henderson and Venkatraman (1999) mentioned that "strategic alignment is not an event but a process of continuous adaptation and change". They went further to say the attainment of dynamism is not tied to any specific set of highly complicated technological functionality, but the ability of the organization to use what it has to differentiate itself from its competitors on a continuous basis. This is in furtherance of the management understanding of the role that IT plays in transforming, as well as, understanding the ability of IT to exploit the critical components of the organisation to support the strategic business decisions.

In trying to answer some of the basic questions that managers are confronted with in relation to the changing roles of IT within organisations, the authors developed a model that defines a range of strategic choices confronted by managers and how they are

interrelated. They used a few practical examples of how organizations are leveraging IT capabilities to shape and support their business strategies which highlighted different facets of aligning IT and business strategy.

The SAM model in Figure 1 below shows the four different areas which are identified along two dimensions ('strategic fit' and 'functional integration') to make up the strategy of an organization.

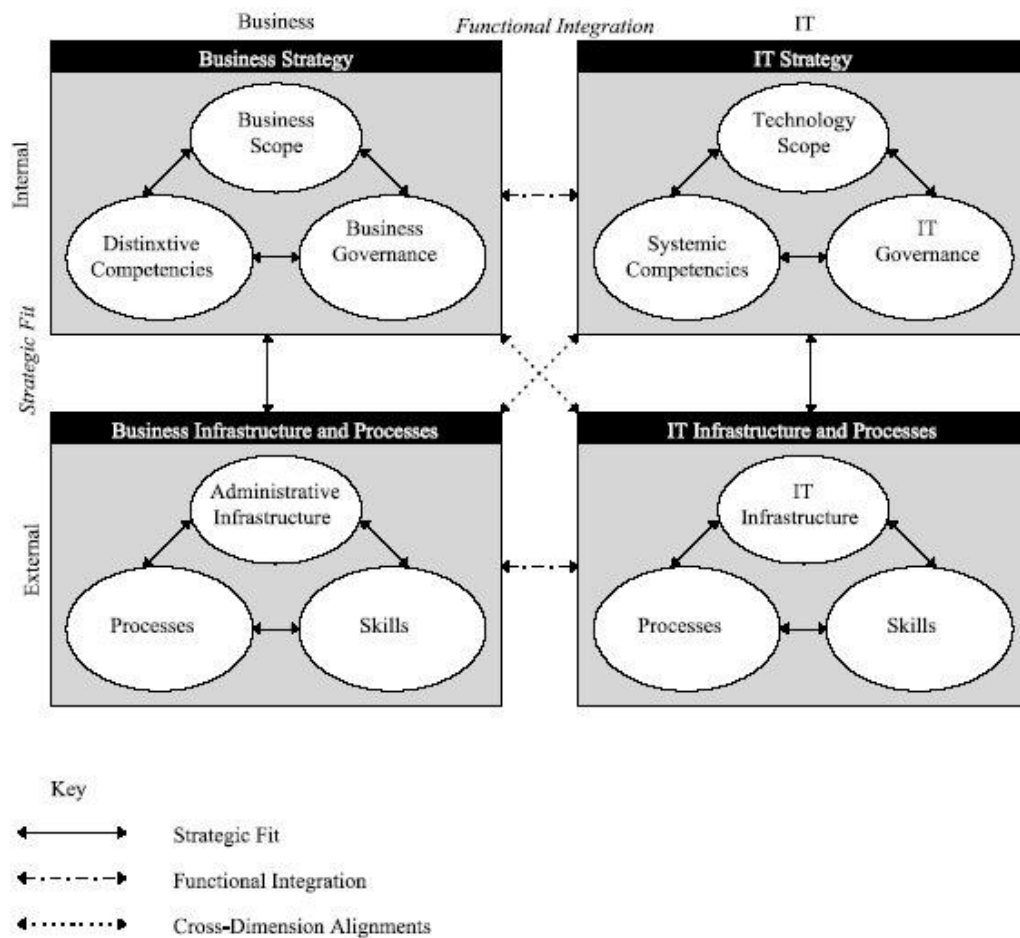


Figure 1 Strategic Alignment Model (Source: Henderson and Venkatraman, 1999)

Henderson and Venkatraman based their concept of strategic alignment on two building blocks namely *strategic fit* which addresses both the external and internal domains and

functional integration. They made a distinction between three sets of choices each involved in both the internal and external domains and added that the distinction is necessary since managers only think of IT in terms of the internal domains and narrows their view of IT as a result.

The SAM is based on four related key domains of strategic choice, namely business strategy, organizational infrastructure and processes, IT strategy, and IT infrastructure and processes which are to be used logically by a careful combination of all four as the use of any two could prove dysfunctional (Henderson and Vankatraman, 1999). The twelve components of the four key domain areas of SAM's model is explained in Figure 2 below:

I. BUSINESS STRATEGY

1. Business Scope – Includes the markets, products, services, groups of customers/clients, and locations where an enterprise competes as well as the competitors, suppliers and potential competitors that affect the competitive business environment.

2. Distinctive Competencies – The critical success factors and core competencies that provide a firm with a potential competitive edge. This includes brand, research, manufacturing and product development, cost and pricing structure, and sales and distribution channels.

3. Business Governance – How companies set the relationship between management stockholders and the board of directors. Also included are how the company is affected by government regulations, and how the firm manages its relationships and alliances with strategic partners.

II. ORGANIZATION INFRASTRUCTURE & PROCESSES

4. Administrative Structure – The way the firm organizes its businesses. Examples include central, decentral, matrix, horizontal, vertical, geographic, federal, and functional.

5. Processes - How the firm's business activities (the work performed by employees) operate or flow. Major issues include value added activities and process improvement.

6. Skills – Human Resource considerations such as how to hire/fire, motivate, train/educate, and culture.

III. IT STRATEGY

7. Technology Scope - The important information applications and technologies.

8. Systemic Competencies - Those capabilities (e.g., access to information that is important to the creation/achievement of a company's strategies) that distinguishes the IT services.

9. IT Governance - How the authority for resources, risk, and responsibility for IT is shared among business partners, IT management, and service providers. Project selection and prioritization issues are included here (See Section IV).

IV. IT INFRASTRUCTURE AND PROCESSES

10. Architecture -The technology priorities, policies, and choices that allow applications, software, networks, hardware, and data management to be integrated into a cohesive platform.

11. Processes - Those practices and activities carried out to develop and maintain applications and manage IT infrastructure.

12. Skills - IT human resource considerations such as how to hire/fire, motivate, train/educate, and culture.

Figure 2 The twelve components of the four key domain areas of SAM's model
(Source: Henderson and Venkatraman, 1999)

In conclusion, Henderson and Venkatraman (1999) stated that they do not believe that there is one universally superior mode to formulate and implement strategy. If there

were, it would not be strategic because all firms would adopt it. They urged managers not to use IT as a remedy for all difficulties, but to adapt to changing circumstances or situations as they arise.

2.2.2. *The Role of IT in Organisations*

To many organizations IT has become a necessary evil, an indispensable tool that firms need in order to keep their organizations' lifeline afloat. IT is a critical resource for companies competing in the global economy of the digital era. Depending on the industry, market, and business goals, it can enable or drive a company's competitive strategy. In addition, IT has become the essential *infrastructure* of any company, the backbone for corporate information flow and the enabler or driver of business processes (Huang and Hu, 2007). Huang and Hu (2007) further mentioned that for every success story about IT, one can find a counterexample. Millions of dollars have been spent on IT with very little measurable success. Companies have had doubts if at all it's worth investing in IT because of the failures that have been marked by IT investment projects judging from the enormous amount of money spent on it. Some companies, for instance, poured millions of dollars into enterprise resource planning (ERP) systems, only to find ineffective operations, work disruption, or even lost revenues (Davenport, 1998).

The difficulty in managing and getting value out of IT grew so intense that it recently ignited a heated debate on whether "IT matters" to companies anymore (Carr, 2003, 2004; DeJarnett, Lasky, & Traino, 2004).

No single IT application, however sophisticated and state of the art it may be, could deliver a sustained competitive advantage. Rather, advantage is obtained through the capability of an organization to exploit IT functionality on a continuous basis. (Henderson and Venkatraman 1993, 1999). In another article, Huang and Hu (2007) mentioned that it is widely recognized that whether or not IT works for a company has less to do with the technology itself, and much more with how IT is used and managed. The effectiveness of IT goes well beyond software and hardware; even the best technology cannot work efficaciously for a company unless it is put to proper use in the

right context at the appropriate time. To make IT deliver business values beyond supporting daily operations, management needs to plan and execute, not from the technology end, but based on the business strategies (Huang and Hu, 2007). The main determinant, therefore, is how well IT is aligned with the business strategy, deemed one of the top issues in the minds of IT executives (Luftman and McLean, 2004; Luftman et al., 2006).

2.2.3. *Importance of Business-IT Alignment*

A lot of literature have emphasized the need as well as the importance of alignment. IT has become the engine of growth, and good IT strategies should be actionable, start with right goal, deliver value to business, be achievable, robust, involve trade-offs, defines and provides information for business needs and considers continuity (Heikkanen, 2010). In a world where technology plays a crucial role the strategic integration of technology with organizational goals cannot be overstressed (Boar 1994). Henderson and Venkatraman (1999) argued that the inability of firms to realize value from IT investments is, in part due to the lack of alignment between business and IT strategies of organizations. A key concern of business executives is alignment i.e. applying IT in an appropriate and timely way and in harmony with business strategies, goals, and needs (Papp, 1998; King, 1995; Watson and Brancheau, 1991). Frustratingly organizations seem to find it difficult or impossible to harness the power of IT for their own long-term benefit, even though there is worldwide evidence that IT has the power to transform whole industries and markets. (King, 1995; Luftman, 1996; Earl, 1996; Goff, 1993; Liebs, 1992; Robson, 1994).

Senior business executives consider investments in IT as potentially strategic to business success (Compass Group, 2001). Research in information systems suggests that achieving strategic alignment between business and IT is essential to improving organisational performance (Reich and Benbasat, 1996, 2000; Sabherwal and Chan, 2001). Due to the increasingly strategic role of IT, resource constraints, and enhanced need for integration of new and existing systems, strategic management of IT has continued to receive attention from researchers and managers. (Kearns and Lederer,

2003). According to Reich and Chan (2007) those organizations that successfully align their business strategy with their IT strategy will outperform those that do not. Alignment leads to more focused and strategic use of IT which in turn leads to increased performance. (Chan et. al, 2006)

Firms that are able to build and regularly demonstrate an effective IT capability have learned to excel in four distinct but mutually enforcing performance domains (Feeny and Willcocks 1998; Rockart et al. 1996; Ross et al. 1996; Sambamurthy and Zmud 1996). The four distinct areas are:

- delivering IT services at low cost and high quality;
- designing and building an IT architecture that provides technology platforms, data platforms, and business platforms that are reliable, scalable, adaptable, and shareable;
- crafting a web of relationships among technology providers, technology implementers, business strategists, and business tacticians that enables appropriate IT-based solutions to be envisioned, tailored and implemented;
- aligning technology and business strategies such that IT possibilities inform future business direction and that IT strategies both anticipate future business strategies and embrace current business strategies.

Companies are doing their utmost best to be able to improve the quality of their product and service deliveries as well as lowering the costs of production while maintaining or improving the quality of their products and services to meet the ever increasing demands of customers and suppliers in this globalised world (Chatterjee et al. , 2001). One of the primary vehicles through which firms are able to implement strategic business initiatives in response to ever-changing market conditions is their capability to effectively apply IT in the form of IT-enabled business platforms and solutions (Ross et al. 1996).

Sledgianowski and Luftman (2005) stated that alignment seems to grow in importance as companies strive to link IT and business in light of dynamic business strategies and continuously evolving technologies. They added that what is not clear is how to achieve

and sustain harmony among business and IT, how to assess the maturity of alignment and what the impact of misalignment might be on the firm.

2.2.4. *Counter Arguments on Alignment*

Despite the fact that there have been both empirical and anecdotal evidence that strategic IT and business alignment has enormous benefits in this fast growing and competitive world enabled by IT, alignment has been challenged by some scholars. Most of these counter arguments have been in the late 1990's when strategic alignment was still in its infantile stages. Even though it's been many years ago some of the counter arguments still hold today. Further, the Society for Information Management conducts surveys to gauge the importance of various IT issues. In 2005, the number one management concern of all groups of respondents was alignment (Luftman et al., 2005). Alignment was also ranked as the top management concern in 2004 and 2003, whereas it was ranked 9th in 1994, 7th in 1990, 5th in 1986, and 7th in 1983. It is clear that the issue of IT alignment has remained important over the past two decades. These counter arguments are said to be alignment challenges and not reasons for not aligning business and IT strategically.

Sauer and Burn (1997) warn that alignment can give rise to pathologies that require careful management if undesired business and IT costs are to be avoided. Three types of pathological outcomes from strategic alignment are identified: misalignment, which occurs when a company tries to align IT with business strategies that are not internally consistent; IT stagnation, which occurs as part of a common, almost natural, cycle of innovation; and IT and globalization, which presents special scale and cultural difficulties for alignment. If IT researchers produce manuscripts that call for high alignment in these potentially difficult and pathological situations, they are doing a disservice to practitioners.

Ciborra (1997) suggests that the alignment literature is too theoretical; that it is generated by the scientific method applied to the design of human affairs and computer systems. He recommends a Mintzberg-like approach, where researchers go to the field for insights (Mintzberg, 1973). Critics of IT alignment research argue that in the world of work, alignment does not succeed because strategy is not a clear concept due to

various turbulent, unpredictable circumstances that leave managers muddling through, betting, and tinkering with their corporate strategies (Vitale et al., 1986). Tightly coupled arrangements can have negative outcomes especially in turbulent times. That is, if the business environment suddenly changes and alignment is too tight, businesses may have difficulty adjusting to their new environments. (Chan and Reich, 2007). Experience in IT management over the last three decades shows that alignment is easier said than done Huang and Hu (2007).

Furthermore, the use of IT itself is characterized by improvisations of various sorts (Ciborra, 1996; Orlikowski, 1996) and by unexpected outcomes. Depending on the model of alignment, one can argue that it is necessary for IT to challenge the business, not simply implement its vision (Chan and Huff, 1993). However, Kearns and Lederer (2000) point out that while effective alignment of the IT plan with the business plan can provide competitive advantage, the opposite – aligning the business plan with the IT strategy – can result in potential losses. For this reason, researchers and practitioners must be cautious about putting IT in the lead. Levy (2000), using a resource-based perspective, cautions that IT, even aligned IT, in and of itself is not strategic. In order for IT to be strategic, it must be valuable, unique, and difficult for competitors to imitate.

2.2.5. *Critical Success Factors of Alignment*

The path that leads to a successful strategic and business IT alignment has been rough. In order to straighten the path to a successful alignment, knowledge about the critical success factors to alignment will serve as a catalyst to a fast and successful strategic business and IT alignment.

Bonylon and Zmud (1984) defined critical success factors (CSF) are those few things that must go well to ensure success for a manager or an organization, and, therefore, they represent those managerial or enterprise areas that must be given special and continual attention to bring about high performance. CSFs include issues vital to an organisation's current operating activities and to its future success. The definition given

by Rockart and Bullen (1981) was “critical success factors thus are, for any business, the limited number of areas in which results, if they are satisfactory, will ensure successful competitive performance for the organization. They are the few key areas where ‘things must go right’ for the business to flourish. If results in these areas are not adequate, the organization’s efforts for the period will be less than desired”.

Teo and Ang (1999) described the previous studies on critical success factors as being on examining specific systems implementation such as Manufacturing Resource Planning (MRP) (Ang et al. 1995), Burns et al. (1991) and Total Quality Management (TQM) Black and Porter (1996), Saraph et al. (1989) as well as data management, Guynes and Vancecek (1996). They mentioned that relatively few studies exist on the CSFs related to aligning IS plans with business plans. Teo and Ang (1999) conducted an empirical study of IS executives on the relative importance of various CSFs for aligning IS plans with business plans. Out of the eighteen critical success factors for aligning Information Systems plan with business plans on a Likert scale ranging between 1 and 5, 1 denoted not important and 5 denoted very important. The results indicated that top management commitment to the strategic use of IT, IS management knowledge about business, and top management confidence in the IS department are the top three CSFs. Below are the 18 critical success factors aligning IS plans and business plans listed by Teo and Ang (2005) with the results in descending order of importance.

Business-IS planning alignment	Mean
1. Top management is committed to the strategic use of IT	4.34
2. Information systems (IS) management is knowledgeable about business	4.26
3. Top management has confidence in the IS department	4.20
4. The IS department provides efficient and reliable services to user departments	4.12
5. There is frequent communication between user and IS departments	4.07
6. The IS staff are able to keep up with advances in IT	4.10
7. Business and IS management work together in partnership in prioritizing applications development	4.06
8. Business goals and objectives are made known to IS management	4.06
9. The IS department is responsive to user needs	4.03
10. Top management is knowledgeable about IT	4.00
11. The IS department often comes up with creative ideas on how to use IT strategically	4.00
12. The corporate business plan is made available to IS management	4.00
13. There is a set of organisational goals and objectives for the IS department	3.91
14. User departments view IS staff as competent	3.88
15. The IS management actively participates in business planning	3.74
16. Top management actively participates in IS planning	3.71
17. The planning horizons for business and IS plans are similar	3.55
18. Users actively participate in IS planning	3.48

Table 1 Business-IS Alignment (Source: Teo and Ang, 2005:178)

Huang and Hu (2006) identified that the achievement of a sustainable alignment as against an integration that is viable for a short term calls for a holistic approach. Based on previous research and discussions held with the company executives of their case study companies on their practices, the authors found out that the holistic approach entails the execution of four key elements identified as:

- a) Integrated Planning – IT Planning with Business Planning
- b) Effective Communication – Maintaining effective communication channels.
- c) Active Relationship Management – Developing strong relationship between IT and Business.
- d) Institutionalized Culture of Alignment

Kearns and Sabherwal (2007), Teo and Ang (2005) and Henderson and Venkatraman (1999) mentioned the importance of top management commitment as important to the success of strategic business/IT alignment. This was followed by shared domain knowledge within businesses.

2.2.6. *Inhibitors of Alignment*

Luftman et.al (1999) identified areas in their research that help or hinder business-IT alignment. They mentioned that alignment focuses on the activities that management perform to achieve cohesive goals across the organization. Their research was based on a multi-year studies and analysis over a period of five years between 1992 and 1997. Data was obtained from 500 firms across fifteen industries. Executives who were attending classes at the IBM's Advanced Business Institute were asked to describe those activities that help in achieving alignment and those activities that seem to hinder it. It became clear from the responses that achieving alignment was dynamic and a process of continuous change. They further stated that it requires strong support from senior management, good working relationships, strong leadership, appropriate prioritization, trust, and effective communication as well as thorough understanding of the business environment.

Similar enablers and inhibitors to strategic business-IT alignment were identified consistently over the five year period. The six key inhibitors they observed were the inverse of the enablers. However it was mentioned that the key inhibitors were mentioned by both IT and non-IT executives as main barriers. It was observed that the factors that appeared in the enablers are the same factors that appeared as inhibitors or barriers. The top six most frequently identified enablers and inhibitors are listed in the Table 2 below:

ENABLERS	INHIBITORS
Senior executive support for IT	IT/business lack close relationships
IT involved in strategy development	IT does not prioritize well
IT understands the business	IT fails to meet its commitments
Business – IT partnership	IT does not understand business
Well prioritized IT projects	Senior executives do not support IT
IT demonstrates leadership	IT management lacks leadership

Table 2 Enablers and inhibitors of alignment (Source: Luftman and Brier, 1999:109)

It was concluded in their article that there's the need for executives to work towards minimizing activities that inhibit alignment and maximize activities that bolster it. They prescribed the following to executives: to concentrate on improving the relationships between the business and IT functional areas, to work toward mutual cooperation and participation in strategy development and to effectively communicate in terms that their business partners understand and appreciate. They added that they need to maintain executive support, and to prioritize projects more effectively.

Huang and Hu (2007) enhanced the use of four key elements in achieving and sustaining strategic business-IT alignment by implementing the balanced score card enterprise-wide in medium-sized pharmaceutical company located in the south eastern United States and employing over 700 people. They stated that IT involves active design, management, and execution of the IT functions in accordance with the company's goals and strategies.

Huang and Hu (2007) further stated that IT is a highly technical field, and people who traditionally excel in IT are more technically capable than business savvy. Furthermore executives do not comprehend the terms that are used by IT staff and this culture gap between IT and business has been shown to be an impediment to aligning the IT function with the rest of the business (Pepper & Ward, 1999; Ward & Pepper, 1996). On the contrary, because of the lack of understanding of the technicalities of IT by non-IT managers, they do not go the extra mile of trying to understand the significance of technology in business. As a result they settle on the bottom line and this feeling causes a further rift by the business executives often ignoring IT and setting some high-level performance target for IT (Lohmeyer, Pogreb, & Robinson, 2002)

To achieve sustainable alignment between business and IT, a holistic approach – one that combines and balances the appropriate processes as well as cultural components - is necessary. Huang and Hu (2006) based on previous research identified that the holistic approach entails these four elements:

Integrating IT planning with business planning:- The first and fundamental step to alignment is the reflection of business objectives and strategies in the IT planning and operations.

Maintaining effective communication channels:- Open and effective exchanges and interactions help IT and business understand each other's needs and work together well (Brown & Ross, 1996).

Developing strong relationships between IT and business:- Relationship is the key soft factor, or informal structure, that fosters and rejuvenates the state of alignment (Chan, 2002).

Institutionalizing the culture of alignment:- IT-business alignment is not a static state; it's a continuous maturing process over the long run (Luftman, 2000, 2003).

Huang and Hu (2006) concluded that IT cannot be singled out for alignment but rather has to be part of the whole company's strategic program. Alignment is a two way process where IT has to be business savvy and business has to be technologically aware. Secondly, alignment is a gradual and continuous process, not one that happens overnight. They mentioned that alignment has to be a top-down initiative driven by the CEO and not the CIO (Earl & Feeny 2000). The CEO's leadership in making this happen can reinforce the value of IT and encourage if not force the rest of the top management team to adopt IT in their strategic decisions (Feld & Stoddard, 2004; Ross & Weill, 2002).

Reich and Benbasat (2000) presented findings on the factors that influence the social dimension of alignment within ten business units in the Canadian life insurance industry. They defined the social dimension of alignment as the state in which business and IT executives understand and are committed to the business and IT mission, objective, and plans. Their research model included four factors that would potentially influence alignment. Those factors were: shared domain knowledge between business and IT executives, IT implementation success, communication between business and IT executives, and connections between business and IT planning processes.

According to Reich and Benbasat (2000) three of the four factors influenced short-term alignment and only one factor, shared domain knowledge between business and IT executives, influenced long-term alignment. Their research model was confirmed by

the studies and one new element “long-term business direction” emerged from the data which influences long-term alignment as well.

2.2.7. *IT Governance*

According to De Haes and Grembergen (2004), some corporations and government agencies began with the implementation of IT governance to achieve a fusion between business and IT and to obtain needed IT involvement of senior management. “We became convinced that IT governance is the most important factor in generating business value from IT” (Weill and Ross, 2004). This is an indication that IT Governance has business and IT alignment as its foundation. Additionally, its aim of gaining the needed IT involvement by senior management supports the earlier literature that a close and interactive relationship between the CEO and the CIO helps in the attainment of a successful business and IT alignment which produces improved business performance. Without the support of senior management, the foundation of IT Governance will be shaky.

IT governance is the responsibility of the Board of Directors and executive management. It is an integral part of enterprise governance and consists of the leadership and organizational structures and processes that ensure that the organization’s IT sustains and extends the organization’s strategy and objectives. (ITGI, 2003). IT Governance ITGI Governance (2003) is an essential part of corporate governance which provides the structures for the broader objectives of the organization.

The IT Governance Institute (Board briefing, 2nd Edition) proposes that good practices in IT governance need to be applied throughout the enterprise and especially between the IT function and the business units. The business units have a responsibility to work in partnership with IT to ensure that their business requirements are met. To help enable this:

- Board members should take an active role in IT strategy or similar committees.
- CEOs should provide organizational structures to support the implementation of IT strategy.

- CIOs must be business-oriented and provide a bridge between IT and the business.
- All executives should become involved in IT steering or similar committees.

According to the earlier definition given by the ITGI (2003) above, the board and executive has the responsibility for IT governance and that enterprise governance (corporate governance) is an integral part of IT governance. This means that Corporate Governance and IT governance are dependent on each other and has to be mentioned in this regard.

2.3. Alignment maturity assessment and process

2.3.1. *The five levels of maturity assessment*

In order for organizations to effectively employ or improve upon the use of business-IT alignment, it is important to also assess the level of alignment in place and to know the way forward from there. Luftman (2004) described the alignment maturity assessment approach that provides a comprehensive vehicle for organizations to evaluate business-IT alignment in terms of where they are and what they can do to improve alignment. According to Luftman & Brier (1999), the primary objective of the assessment is to identify specific recommendations to improve the alignment of IT and the business.

Figure 3 below shows how the five levels converge into alignment with the broadest base level being a level of one where business and IT are not aligned and the peak being a level of five where alignment is believed to have matured. Luftman (2004) mentioned that an essential part of the assessment process is recognizing that it must be done with a team including both business and IT executives.

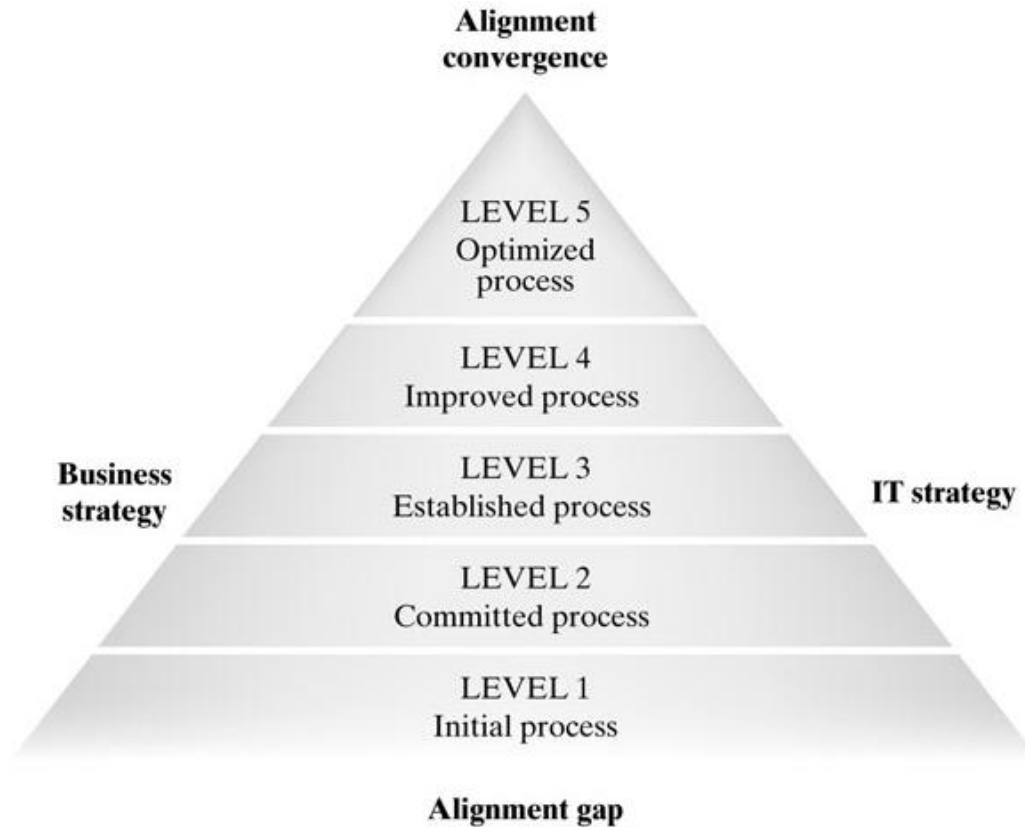


Figure 3 Convergence of Strategic Alignment Gaps (Source Luftman, 2000: 10)

The strategic alignment maturity assessment model comprises of five different levels depicted in Figure 3 and described in Table 3, with each of the levels having a focus on six criteria depicted in Figure 4.

1. Initial/Ad Hoc Process is the lowest level of alignment whereby business and IT are not aligned and any practices in place to facilitate alignment are ad hoc in nature.
2. Committed Process pertains to the existence of a commitment by the organization to promote IT-business alignment.
3. Established/Focused Process refers to the existence of an established alignment process in place that is focused on business objectives.
4. Improved/Managed Process refers to the existence of a strong alignment process that emphasizes the concept of IT as a creator of value for the firm.
5. Optimized Process refers to a strategic alignment process that is fully integrated and co-adaptive between business and IT.

Table 3 The five levels of alignment maturity described (Source Luftman, 1999 : 111)

The six criteria for assessing the maturity level of alignment are communication maturity, competency/value measurements maturity, governance maturity, partnership maturity, scope and architecture maturity and skills maturity. Figure 4 below shows the criteria and the factors under each of them and Figure 5 summarizes the five levels each using the six criteria.

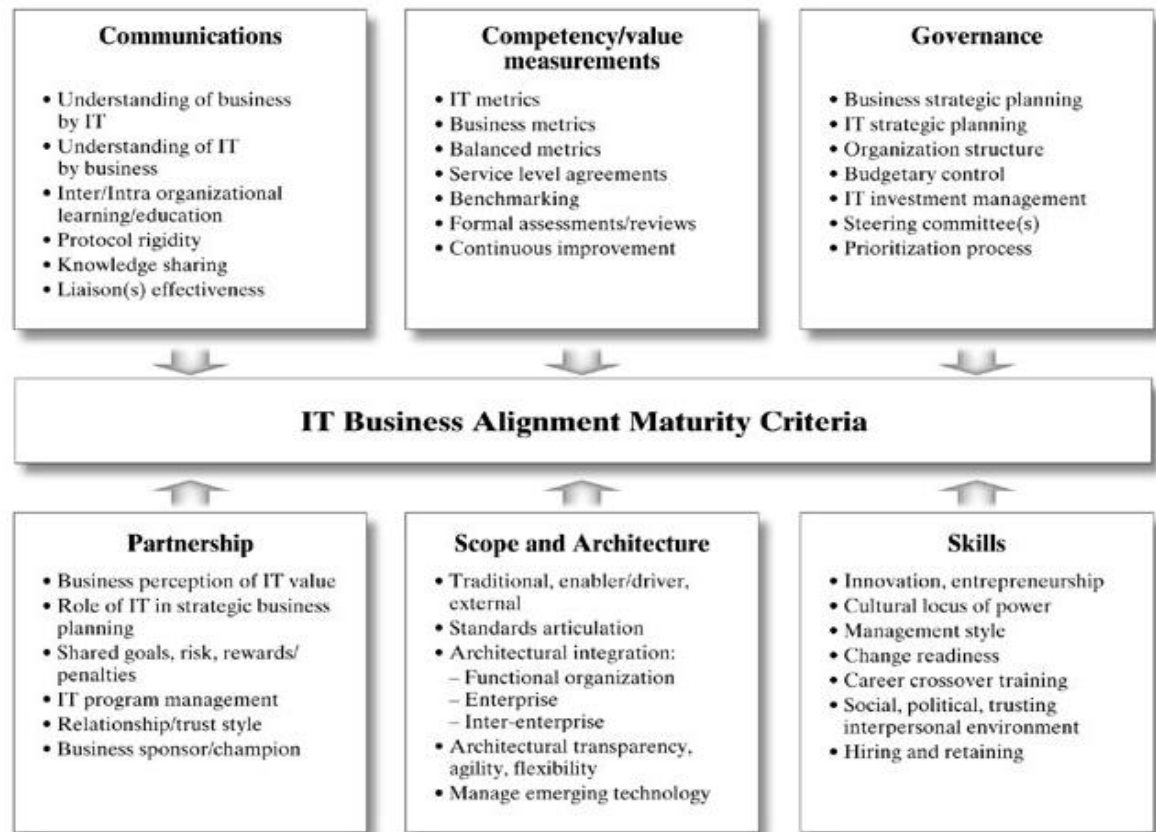


Figure 4 Strategic Alignment Maturity Criteria (Source Luftman, 2000: 12)

Luftman (2004) described the following procedure for assessing the maturity of a firm's alignment: 1) Each of the criteria is assessed individually by a team of IT and business unit executives to determine the firm's level of strategic maturity on this criterion. In other words, each of the six criteria is found to be at Level 1, Level 2, Level 3, Level 4, or Level 5; 2) The evaluation team converges on a single assessment level for each of the six criteria. The discussions that ensue are extremely valuable in understanding both the current state of the organization's alignment maturity and how the organization can best proceed to improve the maturity.; 3) The evaluation team, after assessing each of

the six criteria from level one to five, uses the results to converge on an overall assessment level of the maturity for the firm. They apply the next higher level of maturity as a roadmap to identify what they should do next.

A summary of how the strategic alignment maturity model is determined is shown in Figure 5.

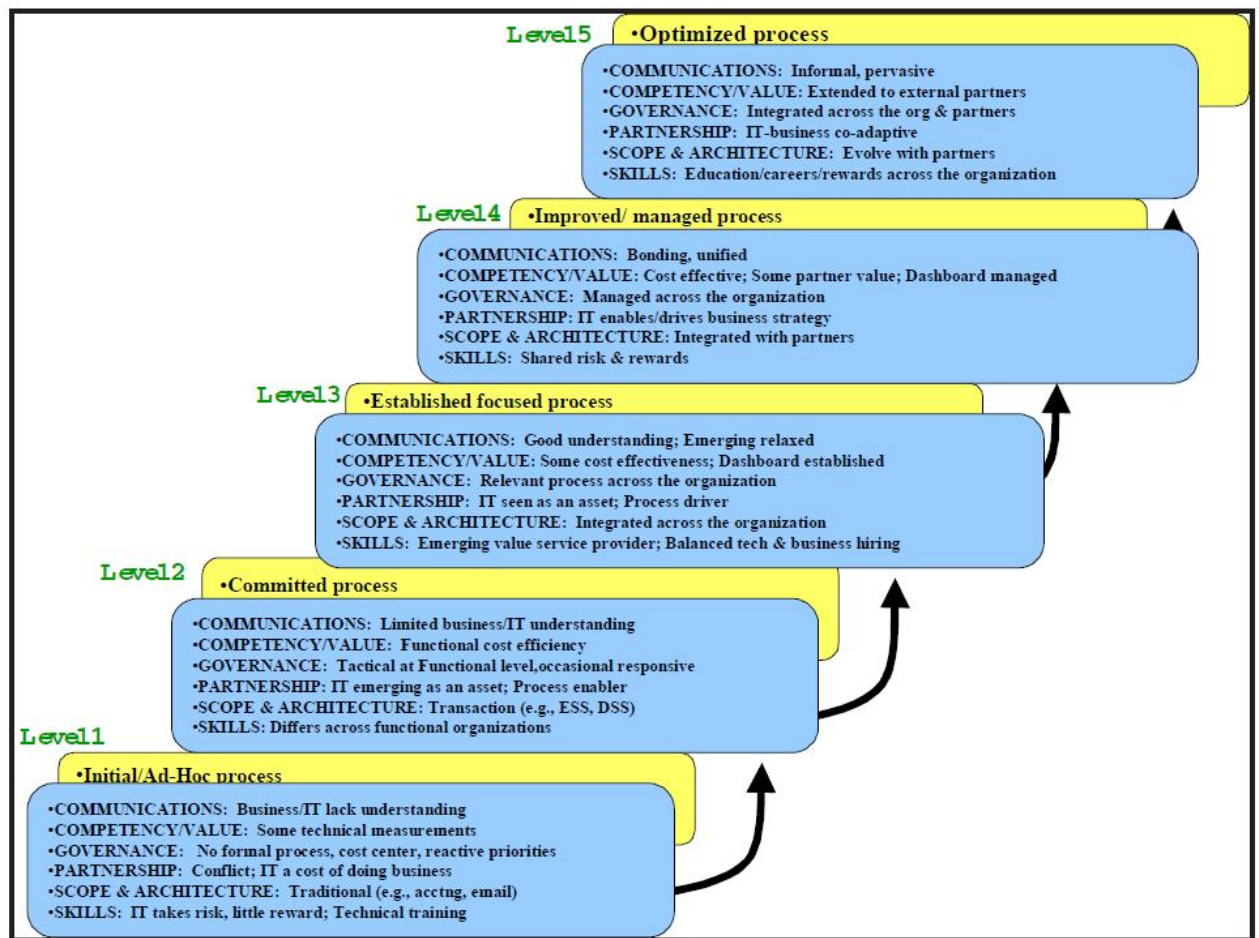


Figure 5 Strategic Alignment Maturity Summary (Source: Luftman, 2000:11)

2.3.2. *Alignment as a six step process*

Strategic alignment can be a major problem if not effectively and efficiently managed. For the alignment to work like it should, the goals must be clear, flexible, attainable and in line with the overall business objectives (Boar, 1994). Luftman and Sledgianowski (2005) mentioned that for an organization to successfully align its IT strategies with its business strategies, specific management practices and strategic IT choices should be considered that help facilitate integration. Luftman et al. (2004, pp. 89-90) discuss a six-step process (Figure 6) which was adapted from Luftman and Brier (1999) to assess strategic alignment.

Even though the concept of strategic business and IT alignment has been widely accepted, there has not been a general agreement on how to achieve it. Henderson and Venkatraman (1993) mentioned that by employing the right mix of the four dominant perspectives of alignment from their SAM, alignment could be achieved. Two of the four perspectives “Strategic Execution” and “Technology Transformation” had business strategy as their driver, whereas the other two perspectives, “Competitive Potential” and “Service Level” had IT strategy as the enabler. This approach was followed by Luftman (1996), who redefined the SAM model providing eight perspectives instead of four. Existing literature, however, does not provide further details for all the steps involved (Gutierrez A. et.al, 2006)

The approach applied to attain and sustain business-IT alignment focuses on understanding the alignment maturity, and on maximizing alignment enablers and minimizing inhibitors. The process (Luftman & Brier (1999) includes the following six steps in achieving the general process of alignment:

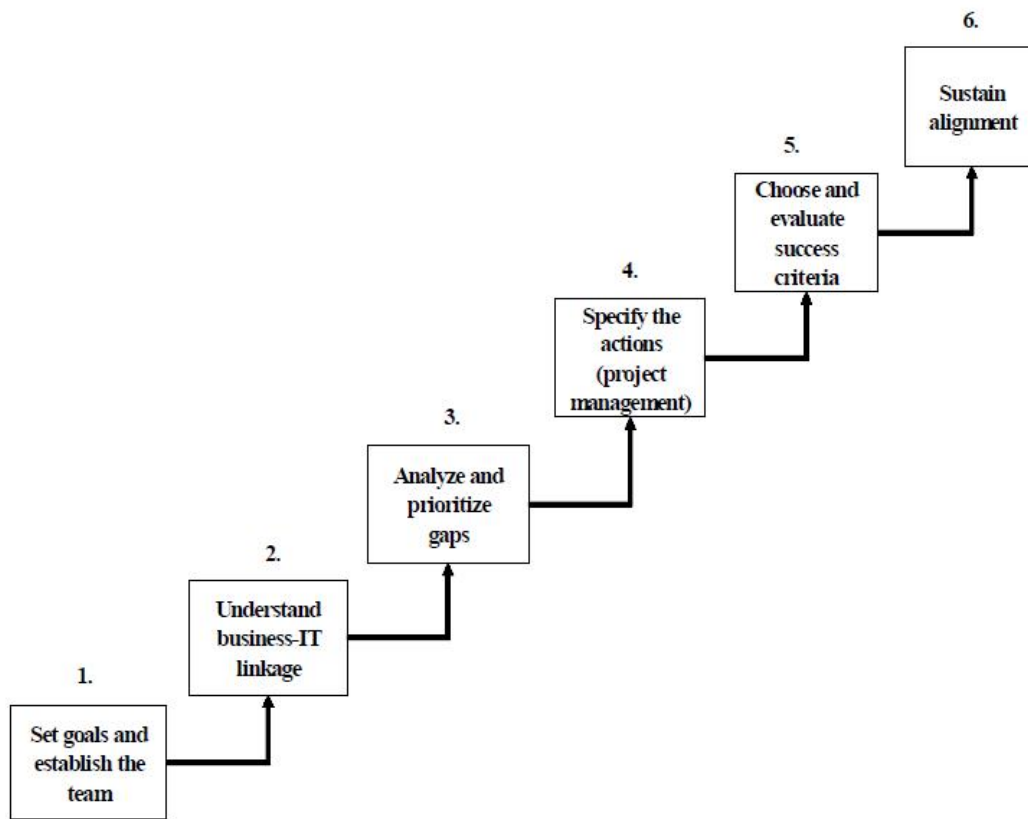


Figure 6 Strategic Alignment as a Process (Source: Luftman and Brier, 1999: 115)

Further the above process mirrors traditional strategic planning and incorporates an organizational assessment using the SAM model. Table 4 below describes the steps involved in the strategic alignment process.

1. <i>Set the goals and establish a team.</i> Ensure that there is an executive business sponsor and champion for the assessment. Next, assign a team of both business and IT leaders. Obtaining appropriate representatives from the major business functional organizations (e.g., Marketing, Finance, R&D, Engineering) is critical to the success of the assessment. The purpose of the team is to evaluate the maturity of the business-IT alignment. Once the maturity is understood, the team is expected to define opportunities for enhancing the harmonious relationship of business and IT. Assessments range from three to twelve half-day sessions. The time demanded depends on the number of participants, the degree of consensus required, and the detail of the recommendations to carry out.
2. <i>Understand the business-IT linkage.</i> The Strategic Alignment Maturity Assessment is an important tool in understanding the business-IT linkage. The team evaluates each of the six criteria. A trained facilitator can be valuable in guiding the important discussions.
3. <i>Analyze and prioritize gaps.</i> Recognize that the different opinions raised by the participants are indicative of the alignment opportunities that exist. Once understood, the group needs to converge on a maturity level. The team must remember that the purpose of this step is to understand the activities necessary to improve the business-IT linkage. The gap between where the organization is today and where the team believes it needs to be are the gaps that need to be prioritized. Apply the next higher level of maturity as a roadmap to identify what can be done next.
4. <i>Specify the actions (project management).</i> Naturally, knowing where the organization is with regards to alignment maturity will drive what specific actions are appropriate to enhance IT-business alignment. Assign specific remedial tasks with clearly defined deliverables, ownership, timeframes, resources, risks, and measurements to each of the prioritized gaps.
5. <i>Choose and evaluate success criteria.</i> This step necessitates revisiting the goals and regularly discussing the measurement criteria identified to evaluate the implementation of the project plans. The review of the measurements should serve as a learning vehicle to understand how and why the objectives are or are not being met.
6. <i>Sustain alignment.</i> Some problems just won't go away. Why are so many of the inhibitors IT related? Obtaining IT-business alignment is a difficult task. This last step in the process is often the most difficult. To sustain the benefit from IT, an "alignment behavior" must be developed and cultivated. The criteria described to assess alignment maturity provide characteristics of organizations that link IT and business strategies. By adopting these behaviors, companies can increase their potential for a more mature alignment assessment and improve their ability to gain business value from investments in IT. Hence, the continued focus on understanding the alignment maturity for an organization and taking the necessary action to improve the IT-business harmony is key.

Table 4 Steps in Strategic Alignment Process (Source: Luftman and Brier, 1999: 115)

2.4. Summary of the Chapter

The importance of strategic business and IT alignment cannot be overemphasized. The inability of firms to realize value from IT investments has partly been due to lack of alignment between business and IT. The four fundamental domains of strategic choice used by Henderson & Venkatraman (1999) were developed to conceptualize and underscore the importance of alignment.

Henderson & Venkatraman (1999) SAM explained the emergence of IT from the traditional static role to a role based on dynamism. The model called for a fundamental shift from internal orientation of IT to an external orientation. They used the change towards one of strategic fit within the IT domains which has three factors in terms of the scope of technologies, the desired levels of competencies and the locus of governance. The four main areas of the SAM model with its twelve factors need a careful combination of both the external and internal factors on the dimensions of strategic fit and functional integration in order to achieve the desired results.

The fact that IT has become an indispensable tool especially to organizations needs careful consideration and attention. The globalization of businesses and the stiff competition facing them both locally and internationally has sent a wave of technological fever on businesses. The stories of failure such as work disruption, ineffective operations etc. in IT implementations with the millions of euros that go into it with little measurable success has put a lot of doubts in the minds of companies. It's however worth mentioning that according to Huang and Hu (2007), whether or not IT works for a company has less to do with the technology itself, and much more with how IT is used and managed. They further added that to make IT deliver business values beyond supporting daily operations, management needs to plan and execute not from the technology end but based on business strategies.

Despite the fact that there has been a wide acceptance of the fact that aligning business and IT bring about improved business performances and competitive advantage, businesses are unable to align their business and IT or fail to attain the needed results. Luftman (2004) proposed some questions that companies have to address in their bid to align successfully. The three questions were how organizations could assess, improve and achieve mature alignment. Sledgianowsky and Luftman (2005) stated that what is not clear about business and IT (BIT) alignment is how to achieve and sustain harmony between business and IT alignment, how to assess the maturity of alignment and what the impact of misalignment could be. Even though there's been empirical evidence about the benefit of this kind of alignment, some scholars have challenged it. Scholars think that the alignment concept is too theoretical or that the concept is unclear due to

ever changing business environment and the fact that technology itself is characterized by unexpected outcomes. These counter arguments are however not reasons given for halting the process of BIT alignment but rather challenges to strategic BIT alignment.

There are some critical elements that organizations have to take into account in order to achieve success in alignment. The absence of these elements called inhibitors to alignment gives the opposite results. From the various literatures these elements need to be prioritized. These critical success factors are “top management commitment to the strategic use of IT”, “IS management knowledge about business”, IT involved in strategy development”, “IT understands the business”. The inhibitors are “IT and business lack close relationships”, “lack of business communications with IT”, lack of clarity and predictability of corporate goals direction. Chan (2002) also mentioned cultural and structural issues as barriers to alignment. Additionally, it is also mentioned that alignment is not a one-time event but a continuous process and this is emphasized by the six step process.

In order to effectively employ, if not already in existence, or improve upon the use of BIT alignment if already in existence, Luftman (2004) recommended that it is important to assess the level of alignment in place and identify specific recommendations to improve the alignment of BIT. The maturity assessment model which comprises of the five levels each working in tandem with the six elements to ascertain the maturity level of each of the six elements (communication, competency/value measure, governance, partnership, scope and architecture, skills) help to ascertain the level of maturity for each criteria as well as the sum total.

Until recently the strategic importance of alignment lacked empirical evidence demonstrating the positive impact of IT on firm performance (Chatterjee, 2001). He further stated that the strategic importance of a firm’s IT capabilities is prompting an increasing number of companies to appoint CIO’s to effectively manage these assets. Such moves they said are reflective of changes in top management thinking and policy regarding the role of IT and firm’s approaches to IT governance.

IT governance has the fusion between business and IT as well as top management involvement as its foundation. However there is greater interplay or interdependence between IT governance and corporate governance. Even though IT governance ensures fusion, Peterson (2003) mentions that “IT governance effectiveness is only partially dependent on the CIO and other IT executives, and should be viewed as a shared responsibility and enterprise-wide commitment towards sustaining and maximizing IT business value”. Corporate governance forms the umbrella under which IT Governance and other assets of the organization fall. It seeks to involve all the various functional units of a business together in order to achieve the goals of the business. Involving all the various functions in the support of IT governance and most especially top management helps in the bringing of the understanding of IT and IT language to every level of the organization.

The various structures, which assign roles and responsibilities to management and more importantly, bring the CIO on board on an executive level narrows the relationship through eliminating levels of reporting and subsequently increasing the interaction between the CEO and CIO. This is very helpful in the success of strategic alignment.

At the center of it all is the CIO whose role has changed from the traditional support role of organizational systems to one of a strategic visionary in order to be able to function properly by understanding the business and contributing effectively, whose leadership responsibilities is being required more than ever. Weiss and Anderson (2004) mentioned in their research that that the CIO was often the only top-level executive who could effectively lead enterprise-wide initiatives aimed at aligning IT with business processes. In the 2008 ASEAN CIO Leadership Study Executive Summary: (Assessed online on 13/01/2011) it was stated: “the modern CIO is expected to perform as a member of the organization's management team, to excel in technology-related areas, and to display leadership and strategic capabilities”.

3 THE NEED, EVOLVEMENT AND LEADERSHIP ROLE OF THE CIO

3.1. The Need for a CIO

The need for the CIO of an organization became important or necessary in the early 1980's. Many reasons have been given for the need and creation of the CIO role which was non-existent decades ago. Arnett and Jones (1994) argued that the role of CIO was created to assign accountability to one executive responsible for an organization's information processing needs. Stephens and Loughman (1994) stated that the need to close the gap between organization and IT strategies was the reason for the CIO position creation. Further arguments were that the CIO position was created because alignment and integration of IT with business goals was crucial to the firm's survival and for achieving competitive advantages (Earl and Feeny, 1994). Robbins and Pappas (2004) were of the opinion that the CIO position was introduced in the early 1980s to address the special needs of enterprises in maintaining the critical IT infrastructures that support their business processes, and has grown in importance as it has evolved through the 1990s and into the new millennium.

Andrews and Carlson (1997) argued that the roles of CIOs are now in the 4th wave of evolution. The first wave saw CIOs as "glorified DP (data processing) managers." In the second wave, CIOs were technocrats. CIOs became business executives in the third wave. The 4th wave characterizes CIOs, according to these authors, as technocrats and business executives. According to Carr (2003), most executives looked down on computers as glorified typewriters and calculators which were best relegated to low level employees as secretaries, analysts etc. Rarely at that time would an executive let his finger touch the keyboards of a computer. That has completely changed today and the talk of strategic value of IT has become a routine talk. He further stated that as a result most have appointed CIOs to their senior management teams, and many have hired strategy consulting firms to provide fresh ideas on how to leverage their IT investments for differentiation and advantage.

3.2. The Traditional Role of the CIO and its Evolvement

The traditional role of the CIO has mainly been to build and cater for the networks, telecommunication and infrastructural needs of the organization, ensuring that at all times the systems of the organization is up and running to support efficiency, reliability, security and availability of the systems. Rockart et al. (1982) who reported on an MIS study, noted that the IT function evolved from an earlier emphasis on handling historical accounting data only to computer-based systems that are integrated throughout day-to-day operations of the organisation. CIOs and IT, they said have therefore played the quiet back role of organizations for some time. Chun and Mooney (2009) also mentioned that developing systems on time, to specification, and within budget was traditionally one of the primary management responsibilities of the CIO. During the period of the Millennium bug or Y2K, there was the fear that computer systems around the world were going to crash and that cessation in computer functions would render companies crippled as all their information will no longer exist. Huge investments in ERP systems, other IT infrastructure and the negative impacts that the millennium bug could have on networks and electronic businesses were a source of great worry to businesses. The technical role of the CIO or head of IT was very much needed as he/she was seen as the savior of organization's systems in working to achieve the Y2K compliance.

Chun and Mooney (2009) stated that the original IS manager's role was that of a computer knowledgeable technician managing a relatively unimportant "Electronic Data Processing" service function. This role gradually developed and MIS studies (Ives and Ohlson, 1981; Wetherbe and Whitehead, 1977) found strong differences in the roles of the MIS executive, related to two of the IS functions: (1) operations, a closed and stable, and mechanistic environment that required the use of formal policies and procedures, and (2) development, an open, adaptive, and organic environment where managers had to function in a flexible, decentralized, decision making, and autonomous mode. MIS managers tended to list their primary objectives and motivations as those related to measures of system efficiency and cost reduction.

Ross and Feeny(1999) described the three eras that the CIO role passed through as

1. The mainframe era covering roughly the 1960s into the early 1980s, during which time IT was largely synonymous with mainframe computers.
2. The distributed era, starting at the end of the 1970s, during which corporate IT became characterized by integrated networks of workstation PCs, minicomputers, and mainframes connected through local and wide-area networks.
3. The Web-based era, starting for most in the mid-1990s, with a rapidly growing emphasis on the use of Internet and Web protocols to drive both internally and externally oriented applications of IT. They added that these eras were influenced by forces like the attitudes of the business executives, the application portfolios of the business and the role of the dominant suppliers at the time. Table 5 shows the eras and the forces that influenced the CIO roles.

	Mainframe Era	Distributed Era	Web-Based Era
Applications portfolio	Transaction processing from order through delivery	Knowledge worker support; interorganizational systems; process reengineering; ERP systems	Electronic commerce; knowledge management; virtual organization and supply chain reengineering
Executive attitudes	IT for cost displacement and automation; from enthusiasm to cost consciousness	Increased involvement in IT issues and governance; polarization of attitudes: IT as strategic asset or cost to be minimized	IT, particularly the Internet, viewed as transformational, a driver of strategy; IT investments now more attractive in terms of costs and time scales
Dominant suppliers	IBM	Desktop providers—Microsoft, Intel; ERP software providers—SAP, Oracle; outsourcing companies—EDS, Andersen, CSC, IBM	Network product firms—Sun, Cisco, 3Com; browser/portal/search engine providers? E-business consulting and service companies
CIO role and responsibilities	<i>Role:</i> Operational manager of specialist function <i>Tasks:</i> On-time delivery; reliable operations	<i>Role:</i> Executive team member; organizational designer; strategic partner; technology architect; informed buyer <i>Tasks:</i> Manage federal IT organization; recruit and develop staff; educate line management; align IT with business; design corporate architecture; scan technologies; stabilize and standardize infrastructure; scan services market; develop alliances with key vendors	<i>Role:</i> Business visionary? <i>Tasks:</i> Develop new business models for the Internet; introduce management processes that leverage the intranet

Table 5 The CIO Role and its Driving Forces (adapted from Ross and Feeny,1999)

As organizations' IT investment goals evolve from operational efficiency to enhancing strategic growth, the CIO is increasingly expected to play not only the traditional supply-side leadership role that focuses on exploiting existing IT competencies to support known business needs but also the demand-side leadership role that focuses on exploring new IT-enabled business opportunities that result in competitive advantage (Chen et al., 2010).

3.3. CIO Frustrations:- An IT Expert or Business Executive

The CIO's role has grown in importance as it has evolved through the 1990s and into the new millennium (Robbins and Pappas, 2004). A major CIO role shift which was needed in the previous decade to address the impact of the Internet on the business environment is now being superseded by another transformation. In the 2000s, the role and responsibilities of the CIO are extending beyond normal IT boundaries to encompass key partnerships with customers, businesses, and suppliers (Robbins and Pappas, 2004).

As business dependence on IT, both operationally and strategically, has grown the IT leader has increasingly gained acceptance as a member of the executive team (Ross and Feeny, 1999). Since the mid-1980s, this individual has typically been labeled the chief information officer or CIO (Bock et al., 1986). The evolving role of the CIO has even led to the holder of this title being described as 'teacher' and prophet rather than technologist (Nolan Norton Institute, 2001). But soon after this terminology came into use, the signs of distress began to appear (Ross and Feeny, 1999). CIOs have struggled with noticeably short tenures (e.g., Rothfeder & Driscoll, 1990), a lack of credibility within the executive team, and problematic relationships with their CEOs (Feeny, Edward, & Simpson, 1992). The early CIOs had to transform their role from technical manager to that of a technical and business manager capable of leading efforts to deploy IS in ways that generated value-adding information for the firm and in the early 1990s, the characteristics of IS executives had undergone further changes over those of the previous decade (Chun and Mooney, 1999).

The CIO role was now adding functions such as strategic technology planning and control, IT architecture management, IT standards development, and human resource management (Applegate and Elam, 1992; Feeny et. al 1992). The diverse roles played by the CIO in providing invaluable services like implementing development strategies within their organization ensured that other IS professionals were able to move into higher levels of management (Stephens and Ledbetter, 1992). However, soon after their rise in importance, the CIOs began to encounter problems in their efforts to prove their value to their CEOs and other senior managers (Bashein and Markus, 1997). CIOs were in charge of a function that consumed major resources, but offered little proof of their value. Rockart and Ross (1996) argued that the primary issues influencing and shaping the CIO's role arose from factors that were primarily within the firm.

The job responsibilities of the CIO have transformed a mid-level technical manager into a high ranking corporate executive. Consequently, CIOs of today are now faced with the difficult and time-consuming job of juggling their time to handle both managerial and technical information systems issues. The rapid expansion of CIO job roles and responsibilities has led some to say the initials CIO mean "career is over" (Rothfeder and Driscoll, 1990). Many CIOs are however, finding it extremely difficult to balance the two key roles of technician and business person successfully. Many business experts that have analyzed this problem have concluded that the tasks and responsibilities assigned to a typical CIO may be too overwhelming for a single person (Weiss and Anderson, 2002). The CIO of today is required to both serve as high-level corporate liaison and manager between the organization's business functions and the IS function, and also to make far reaching technical and infrastructure systems decisions that will impact the future success of the business (Beatty et al., 2005). This vast job description has presented numerous challenges and complexities for the CIO and the organization (Beatty et al., 2005).

The role and responsibilities of the CIO has become so vast and diverse cutting across all the functions of an organization that academics and businesses are considering splitting the CIO role in order to ease the burden off the CIO shoulders. The job of the CIO is regarded as being amongst the most challenging or difficult in the corporate

hierarchy (Karlgaard, 2002). As the roles have become more strategic than technical, a split is being considered along the line of a Chief Technical Office (CTO), who will take the technical role of the CIO to enable him/her to focus on the strategic aspects of the business. According to Beatty et al., (2005) the most obvious recommendations have focused on allocating some of the responsibilities of the CIO to one or more individuals or functions below the CIO. Beatty et al., (2005) proposed a CIO/CTO organizational hierarchy with three approaches. One of the approaches as shown in Figure 7 places the CTO in a direct line under the CIO, while a second places the CTO on a parallel footing with the CIO. Beyond these two, a third possible scenario follows. This one recognizes that information is already being managed with different structures in all organizations and that it is the technology that must be managed differently. Thus, there is no longer a need for the traditional CIO position within organizations and executive leadership of the IT function should be given to the CTO.

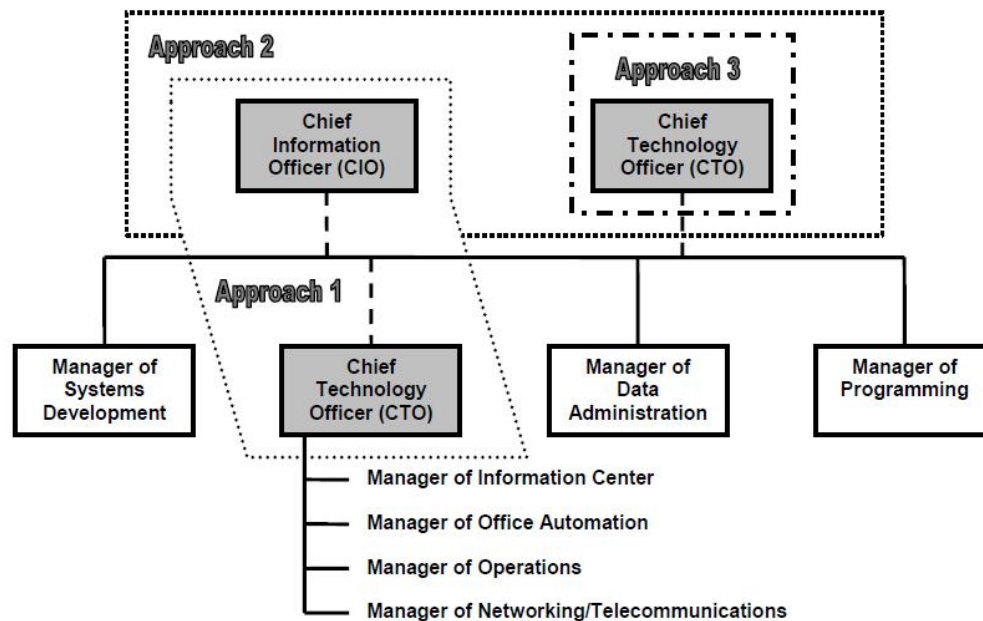


Figure 7 Proposed CIO/CTO Organisational Hierarchies (Source: Beatty et.al 2005)

The second approach where the CIO is placed under the CTO is preferred in order to forestall any conflict in power struggle or who sits in a meeting with the C-level executives.

3.4. Today's CIO Role

Varon (2002) noted that “Whether at small private companies or large public corporations, the CIO job today is defined for executives who are business strategists first and technologists second”. The CIO of today is required to both serve as high-level corporate liaison and manager between the organization's business functions and the IS function, and also to make far reaching technical and infrastructure systems decisions that will impact the future success of the business (Beatty et al., 2005). This vast job description has presented numerous challenges and complexities for the CIO and the organization.

The CIO faces numerous challenges and an analysis of the academic and practitioner publications reveals that there are generally four high level responsibilities or issues facing the CIO: 1) Meeting the changing technical needs of the organization (Architecture Manager), 2) Building a reputation as a knowledgeable business executive (Proven Businessperson), 3) Orchestrating the successful implementation of the IS strategy (Operations Supervisor), and 4) Maintaining the proper IS staff (Personnel Developer) (Ives & Olson, 1981; Applegate & Elam, 1992; Stephens et al., 1992). The critical resource nature of information systems in a competitive environment and the perception of the role that its executive (CIO) plays as a change agent has placed a lot of responsibilities on the shoulders of the CIO (Gottschalk, 1999). Weiss et al. (2005) enumerated eight reasons that make IS deployment difficult and at the same time make its leadership unique. These were the delivery of competitive and strategic advantage, implementation of expensive and complex activities, challenging management responsibilities, contracting or recruiting as well as supervising and developing a diverse workforce, taking responsibility for actions of users who are not directly under the CIO's control, culture gap and significant evolution.

Many practitioner-oriented commentaries on CIOs over the past eight years have argued that they have failed to provide value to their organizations and have become obsolete (Ross and Weill, 2002). Rockart and Ross (1996) stated that it was only towards 2000 did researchers begin to address the effects of external factors and not only internal

factors as affecting the roles of CIOs, arguing that the firm's business functions had become heavily dependent on IT from an operational and strategic standpoint. Other researchers have further argued that the role of the CIO has evolved into one responsible for providing the IT infrastructure and capabilities to ensure effective business operations (DellaVechia et al., 2007; Leidner and Mackay, 2007). Thus the CIO's role has become more strategic in nature, initiating and provoking businesses to change processes and strategies through the use of IT.

In order to achieve this change in role, CIOs would have to possess skills in both technical and business areas (Chun and Mooney, 2009). The key technology issues included technical spending and budget allocation (Leidner et al., 2003), IT architecture and capabilities development (Feld and Stoddard, 2003; Sauer and Willcocks, 2002) security, delivering value (Brown 2005; Kohli and Devaraj, 2004), relationship building (Agarwal and Sambamurthy, 2002), and governance (Weill and Ross, 2004), while key business issues included managing shareholder wealth (Chatterjee et al., 2001), performance (Hirschheim et al., 2003), and influencing executive peers to design and to implement strategic initiatives (Enns et al., 2003; Enns et al., 2007).

Feeny and Willcocks (1998) identified nine IS capabilities that CIOs needed to become effective in an interview with 61 CIOs. These fell within three main domains of responsibility see Figure 8 The IS capabilities identified were: leadership—integrating IS efforts into business activities; business systems thinking—defining the business processes that technology makes possible; relationship building—working with business managers to improve IT usage; architecture planning—creating a blueprint for a technical platform that will be responsive to current and future business plans; making technology work—achieving timely technical progress; informed buying—managing the IS purchasing or outsourcing strategy to meet the needs efficiently; contract facilitation—managing contacts for IS services; contract monitoring—watching the business's contracts; vendor development—identifying and assessing the added value of IS service providers.

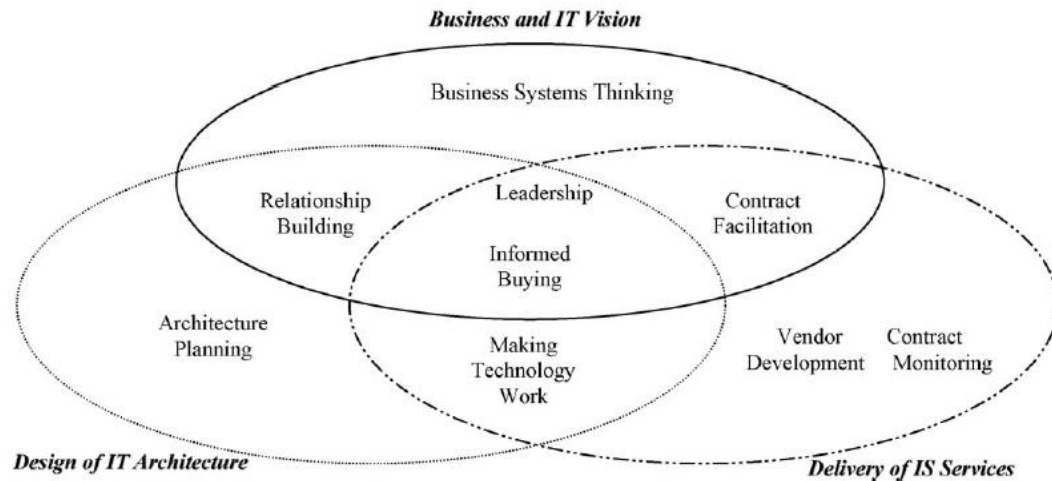


Figure 8 Business and IT vision (Source: Feeny and Willcocks, 1998)

Rockart (1980) also interviewed executives of major organizations and initiated the concept critical success factors for major resource planning: thus noting that the IS manager should help the CEO by providing important information on scarce resources and to make it possible for the organization to adapt to a changing technical environment. He further noted that there were four critical success factors for IS executives: (1) Service—ensuring the effective and efficient performance of the IS and creating positive user perception of IT operations; (2) Communication— understanding the world of key users and top executives and helping them understand the IS environment; (3) IS Human Resources—assisting executives in finding IS talent to develop and use information data bases; and (4) Repositioning the IS Function— managing the technical, organizational, psychological, and managerial aspects of the firm's IS.

According to Chun and Mooney (2009), CIOs began to take notice of external factors that influenced their firm and soon began to diversify their responsibilities by establishing a closer partnership with their business units in order to or take advantage of opportunities in the marketplace. The result is as shown in Figure 9 .

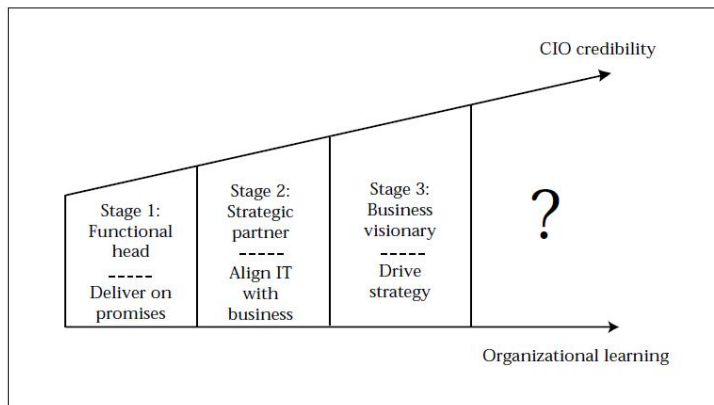


Figure 9 The Evolution of the CIO Role (adapted from Ross and Feeny 1999).

Today the CIO role has taken a turn around. In an IBM study, *Insights from the Global CIO Study*, released in 2009, the report stated that “CIOs are redefining their role as they are not content to be known only as consummate IT experts or perpetual seekers of savings.” The report further mentioned that successful CIOs are much more actively engaged in setting strategy, enabling flexibility and change, and solving business problems, not just IT problems and spends an impressive 55% of their time on activities that spur innovation.

3.4.1. The Multiple skills required of a CIO

Gartner (2001) mentioned seven competencies required of CIOs. Those seven competencies are building and maintaining the technical platform and service delivery, ensuring and demonstrating excellent value and performance, developing IS technical, service and management; creating an environment of opportunity; championing the impact of ‘e’ and finally leading the business. Other CIO leadership roles as mentioned by Computer Sciences Corporation CSC (1996) are Informational, Decisional, Interpersonal, Chief Architect, Change Leader, Product Developer, Technology Provocateur, Coach and Chief Operating Strategist.

The continuous evolving nature of the CIO roles requires dynamism and multiple skills from the individuals who hold them. CIOs they said are the life line to making business competitive and encouraging individual users to be successful at the use of their information systems. (Remenyi et al., 2005). The table below gives the analogy of the Chameleon-CIO functions as depicted by Remenyi et al. (2005). It shows how the CIO is able to adapt to changing situations to survive just as a chameleon does.

Chameleon	CIO
Ability to Change	CIO ability to internalize change as a way of doing business to fulfill his role.
Ability to see in multiple directions	Ability needed to keep an eye on a wide range of current and future issues spanning across the various functions.
Ability to strike fast when required	Ability to strike in the speed and implementation of new ideas which defines the edge in IT.
Ability to hang on when the going gets tough	Ability needed to have strength of character that can persuade the naysayers to stick to the commitments and make sure the systems are implemented successfully and the benefits realized.

Table 6 Analogy of the Chameleon – CIO functions (Source: Remenyi, Grant and Pather, 2005:6)

Remenyi et al. (2005) concluded in their literature review that being a successful CIO is a pushover. To be a CIO requires individuals who are highly skilled, self confident and robust during rough times. Leadership qualities were described as well as the four types of intelligence (political, social, business and IS) that Smaltz et al., (2006) reported that effective CIOs needed to have. Karahana and Watson (2006) were of the opinion that in this second age of globalization CIOs are important players because they create and manage the infrastructure that strings businesses, employees, and customers together to transact commerce. Weiss and Andersson Jr (2002) grouped and categorized three roles played by the CIO and IT staff as 1) political and cultural in nature 2) business problem solvers, 3) project sellers (including the ability to identify and explain cost/benefits of IT offerings) and 4) interpersonal and cross-functional sellers. In all these the

respondents assessed themselves from the point of view of their end-users and customers.

The job of the CIO covers the entire organisation and the fact that line managers have increasingly become responsible for the management of the information systems in their areas of operations have pushed the CIOs to a more strategic role than merely technical (Gottschalk (1999)). The CIO is thus concerned with a wider group of issues than are most managers (Jordan, 1993). Gottschalk (1999) cited the six leadership roles of the IS leader in t

Table 7 below:

Six IS leadership roles

1. The *chief architect* designs future possibilities for the business.
2. The *change leader* orchestrates resources to achieve optimal implementation of the future.
3. The *product developer* helps define the company's place in the emerging digital economy.
4. The *technology provocateur* embeds IT into the business strategy.
5. The *coach* teaches people to acquire the skillsets they will need for the future.
6. The *chief operating strategist* invents the future with senior management.

Table 7 The six IS leadership roles (Source: Gottschalk,1999)

The understanding of effective IS leadership is limited and has often resulted in a higher rate of dismissal amongst CIOs in organizations than in other C-levels in an organization. The leadership of IS has become very important because of the increasing dependence on CIO to deliver both in terms of operational stability, innovation process and enablement of business strategy (Karahanna and Watson, 2006). Karahanna and Watson (2006) identified these four as the distinctive aspect of IS Leadership: First and foremost, the business dependence on IS requires that the CIO ensures seamless service delivery and operational stability. Secondly, CIOs are expected to be business partners who understand the business aspects of the organization. Thirdly, given that IS permeates all business functions, the CIO ideally needs to also have a holistic understanding that crosses functional boundaries. Lastly, the complexity of the

environment and the breadth of required skills mean that IS executives need social, political, business, and IS intelligence.

Gottschalk (1999) found out that the level of reporting relationship between CIO and CEO was gaining prominence with 48% of the respondents reporting to the CEO or its equivalent level in the organization. This he compared with results by other researchers, Elam and Mead (1992), and CSC (1997), which similarly confirmed the increasing relationship between the two. The results further showed that firms, whose CIO reported directly to the CEO or with fewer levels of reporting between the CEO and CIO, had greater extent of strategy implementation (Gottschalk, 1999). Karahanna and Watson (2006) mentioned that to be effective, CIOs need to be part of the top management team, adding that the more general management knowledge that CIOs need to have are however business knowledge, interpersonal communication skills and being politically savvy. Smaltz et.al (2006) also reported that effective CIOs have strategic IS knowledge. It was noted that the CIO has a critical role to play in drawing or creating awareness amongst other leaders about the potentials of IS systems to effectively impact on the strategy of the firm. The elevated role of the CIO to top management makes it possible for them to apply a lateral influence rather than the upward influence they used to apply when they played the role of non-management team members. A great deal of skill is nonetheless required from the part of the CIO in order to convince the peers (Enns et al., 2003).

Dearstyne (2006) mentioned that the debate over where the CIO should report seems to be getting stale and that in the most progressive setting the answer is not only that the CIO should report to the CEO, but that the CIO has a role to play on the board of directors – or in close working relationship with the board. Dearstyne (2006) further quoted Korn-ferry, a prominent executive leadership development firm as reported in July 2005 that nearly half of more than 2000 global executives surveyed asserted that the CIO “absolutely” has a role to play on the board and should serve as an agent for operational efficiency. Weiss and Anderson Jr. (2002) in a summary of their findings of Fortune 500 companies stated that companies that do not demonstrate top-level

alignment between business and technical executives can expect failed and/or unsuccessful IT/business projects.

The personal characteristics of a CIO can impact the delivery of his operational and strategic roles. It was stated that CIOs need guidance on how to behave in certain settings and further needs to be helped in learning how their innate beliefs and behaviors influence their effectiveness (Karahanna and Watson, 2006). Weiss and Anderson (2002) mentioned that CIOs are expected to acquire sophisticated skills that span across managing risks, stakeholder managers, and change agents who must collaboratively initiate, mobilize, and involve internal and external stakeholders on critical projects. These they stated are skills that were previously practiced by different individual leaders and specialists in companies but have now fallen on the shoulders of the CIO / IT professionals. They are expected to be experts in all these areas, whenever they are called upon. Good working relationships with peers are a necessary condition for the success of IT executives (Earl 1993; Henderson 1990; Keen 1991; Stephens et al. 1992). The CIO requires integrity and interpersonal skills in order to develop these important relationships Kotter (1982). These effective working relationships set the stage for CIOs to successfully approach peers in a "personal informal" style (Pyburn, 1983), to make casual contact with peers to discuss these initiatives and build support before a formal proposal is discussed (Feeny et al., 1992).

CIOs must skillfully apply their powers of influence to encourage other functional heads to become partners with them and embrace ownership of these initiatives (McDougall and McGee 1999; Mitchell 2000; Smith 1998). Thus, using a revised model by Yukl (1994) to examine the success of "influence behaviors", Enns et al., (2003) presented issues relating to how successful CIOs are at using their relationship with other top managers or peers to influence or commit them into strategic information systems project. Out of the seven dimensions, it was found out through empirical evidence from a survey that CIOs are skilful at using rational persuasion, influence attempts and personal appeal (with trust being a key factor) to get them to commit. Studies have increasingly focused on the need for Lee et al., (1995) and attainment of Bassellier and

Benbasat (2004) increased levels of business acumen, business process integration, and interpersonal/communication skills.

3.4.2. *Why CIOs are believed to have Failed*

Never in the history of organizations have the position and the leadership role of the highest ranking information technology officer, the CIO, been so much sought after than now. The CIO role is changing, with an increasing focus on business knowledge and skills, the ability to manage relationships, and overall leadership capability by CIO Insight (2010-12-16). Chen and Preston (2007) contended that effective leaders have performance impacts on their groups and organizations. Kotter (1990), in his book stated that leadership unlike management is about coping with change. Leadership focuses on change and innovation; it focuses on the big picture; it focuses on strategies that take calculated risks; and it focuses on people's values. Kotter (1990) also pointed out that you can't manage people into battle; they need, deserve, and want to be led.

The critical resource nature of information systems in a competitive environment and the perception of the role that its executive (CIO) plays as a change agent has placed a lot of responsibilities on the shoulders of the CIO (Gottschalk 1999). The job of the CIO covers the entire organisation and the fact that line managers have increasingly become responsible for the management of the information systems in their areas of operations have pushed the CIOs to a more strategic role than merely technical (Gottschalk 1999). The CIO is thus concerned with a wider group of issues than are most managers (Jordan, 1993). On the other hand CIO job description has not been clear and different organizations have different CIO responsibilities. Sprague and McNurlin's (1993) argue that CIO's responsibilities will serve as a basis for establishing the general CIO responsibilities. Table 8 provides a brief description of the possible allocation of responsibilities for CIOs.

1. Understand the Business

The process of working closely with the top executives within the organization to establish a clear understanding of the market in which the firm sells its products and services is essential for the CIO.

2. Establish Credibility with the Systems Department

If the IS organization is to be viewed as an integral part of the business success of the organization, it must be viewed as successful and reliable by the functional departments which rely on information technology to meet their business objectives.

3. Increase the Technical Maturity of the Firm

Technically matured organizations are those that are both comfortable with the process of integrating the use of IS technologies into all aspects of the organization's business processes, and organizations in which the employees have come to rely on IS technologies to support their day to day work responsibilities.

4. Create a Vision of the Future and Sell It

There must be a single person who is responsible for both establishing the organization's vision for the IS technology in the future, and selling that vision to other top organizational managers.

5. Implement Information Systems Architecture

All organizations must have a person who is responsible for creating and maintaining an information systems architecture (e.g., hardware, software, networks, databases) that will allow the firm to meet its current and future business goals, objectives and strategies.

Table 8 Description of possible allocation of CIO responsibilities (Source: Beatty et.al 2005)

For several years a growing number of executives, analysts, and management writers have argued that business leaders, not technologists should take “ownership” of corporate information technology by holding themselves responsible both for its impact and for the money spent to improve IT (Lohmeyer et al., 2002). This has not been surprising because of the rate of failure of IT investment and deployment and the substantial amount of money that businesses pump into its IT infrastructure. Amongst the various reasons for its failure is the fact that there is lack of leadership skills from CIOs.

Gottschalk (1999) stated that alignment of organizational and IS/IT strategy is a necessary step in achieving competitive advantage and has long been noted as a persistent problem. Achieving and sustaining that competitive advantage has proven elusive to CIOs, calling into question the *quality of leadership* of those who hold, or have held, the executive title of CIO (Gottschalk, 2007). Weiss and Anderson (2002) mentioned that the importance and place of the CIO and IT leadership in organizations are still not completely clear. Waller et al., (2010) argue that CIOs' leadership and

people skills are the biggest determinate of their success or failure. Luftman et al., (2004) cited in Leverman (2008) concluded that if leadership is a primary role and skill of the CIO position, “this may contribute to an explanation of why many CIOs fail”. Leverman (2008) stated that one explanation for CIOs not meeting the leadership needs required of them, offered by Gottschalk (2007), is a conflict in understanding the leadership actions originally envisioned in the CIO position.

Understanding the leadership actions originally envisioned in the CIO position and acting upon it accordingly could help in the success of strategic business and IT alignment which could help to eliminate or reduce the barriers to business and IT alignment since the CIO’s leadership and people’s skills determine their success. To step up the new responsibilities of IT leaders, CIOs must delegate or shed some operational duties and spend more time helping business leaders identify and use technologies that will help companies innovate (Mark and Monnoyer, 2004). Leverman (2008) tried to find the gap in understanding the leadership actions required of corporate CIOs as cited in Gottschalk (2007) in his research. His goal was to reveal what leadership actions CIOs must understand and implement to succeed at the executive level.

This literature on CIO looks at the leadership actions required of a CIO to help in making them succeed using the three leadership characteristics defined by Kotter (1999). The success which is brought about by this leadership could help in reducing the inhibitors of alignment, as outlined by earlier research and literature. The three leadership characteristics are setting direction, aligning people and motivating people. These three characteristics have the tendency to, if CIOs really acquire and exercise them, help in the alignment process.

IS leadership sets directions, creates commitment, mobilizes institutional, political, psychological, and other resources, facilitates action, and adapts the IS unit to fit a changing environment such that it adds value and achieves shared objectives (Yukl, 2002). Leadership is coping with change and how coping with change shapes the leadership characteristics of (a) setting a direction, (b) aligning people and (c)

motivating people (Kotter, 1999). The key to leadership, as well as to the garnering of a following, is the effective communication of a story (Gardner , 1995) and without leadership and management skills, dynamic adaptive enterprises are not possible (Kotter, 1996). Direction setting identifies appropriate path for movement, effective alignment gets people down that path and successful motivation ensures that they will have the energy to overcome obstacles (Kotter, 1999).

3.5. Summary of the Chapter

The position of the CIO has evolved through three different eras of handling historical accounting function, to computer-based systems on a day-to-day operation of being a technician-oriented individual, through to management-oriented CIOs. This has evolved further to more of a managerial and business function. In successful organisations, the IT function as a whole has evolved to a business function rather than a technical function.

The leadership qualities of the CIO originally engrained in the title has either been misunderstood or has not been exercised at all. This misunderstanding, it is believed has caused a lot of failure in the delivery of the CIO responsibilities in the corporate world. This failure has caused a lot of dismissal and Gottschalk (1999) noted that there is a higher than average dismissal rate in the tenure of CIOs than in the other C-levels in an organization. Gottschalk (1999) stated that alignment of organizational and IS/IT strategy is a necessary step in achieving competitive advantage and has long been noted as a persistent problem. Achieving and sustaining that competitive advantage has proven elusive to CIOs, calling into question the quality of leadership of those who hold, or have held, the executive title of CIO (Gottschalk, 2007).

To be able to exercise the leadership role of the CIO as defined by Kotter (1999) as setting directions, aligning and motivating people, the position of the CIO has to be elevated in order to reduce the reporting relationship between CIO and the CEO to an executive position. This could help the CIO with position acceptance, better opportunity

to understand the business, improve communication barrier and understanding this could help improve the image and perception of other colleagues about the CIO in to accepting him/her into the C-level suite. The ability of the CIO to exercise the leadership action of these three characteristics could help in the success of the alignment process as well as reducing the barriers to alignment.

The personal characteristic of the CIO is also important in the alignment process. The personal characteristics, comparable to a chameleon, enables the CIO to strike fast where and when necessary and the steadfastness when the going gets tough. Remenyi et al. (2005) identified the personal characteristics as individuals who are highly skilled, self confident, dynamic and robust during rough times. Personal characteristics were also said to influence the behavior of CIO as some by their nature are innovative. Certain organizational structure and practices like corporate governance and IT governance as well as commitments of some of the private sectors put them at an advantage as compared to those in the public institutions. These principles and practices in the private sectors are recipe for success and should be emulated by the public sector organizations.

4 RESEARCH METHODOLOGY

This chapter presents the methodology used in this study. This study tries to examine leadership characteristics of CIOs and their impact on reducing business and IT alignment barriers.

4.1. Research Model

The objective of the research is to find out about the leadership roles contemporary CIOs play in their organizations, and to examine the impact of the characteristics of those leadership roles in reducing or eliminating the inhibitors of strategic business-IT alignment. This will be studied with the background of the leadership role of the CIO having shifted from technical or operational to strategic. The research model Figure 10, was developed based on Luftman (2004) barriers to alignment and Kotter (1990)'s three leadership characteristics of setting direction, aligning people and motivating and inspiring people as adopted to be applied to the CIO leadership role.

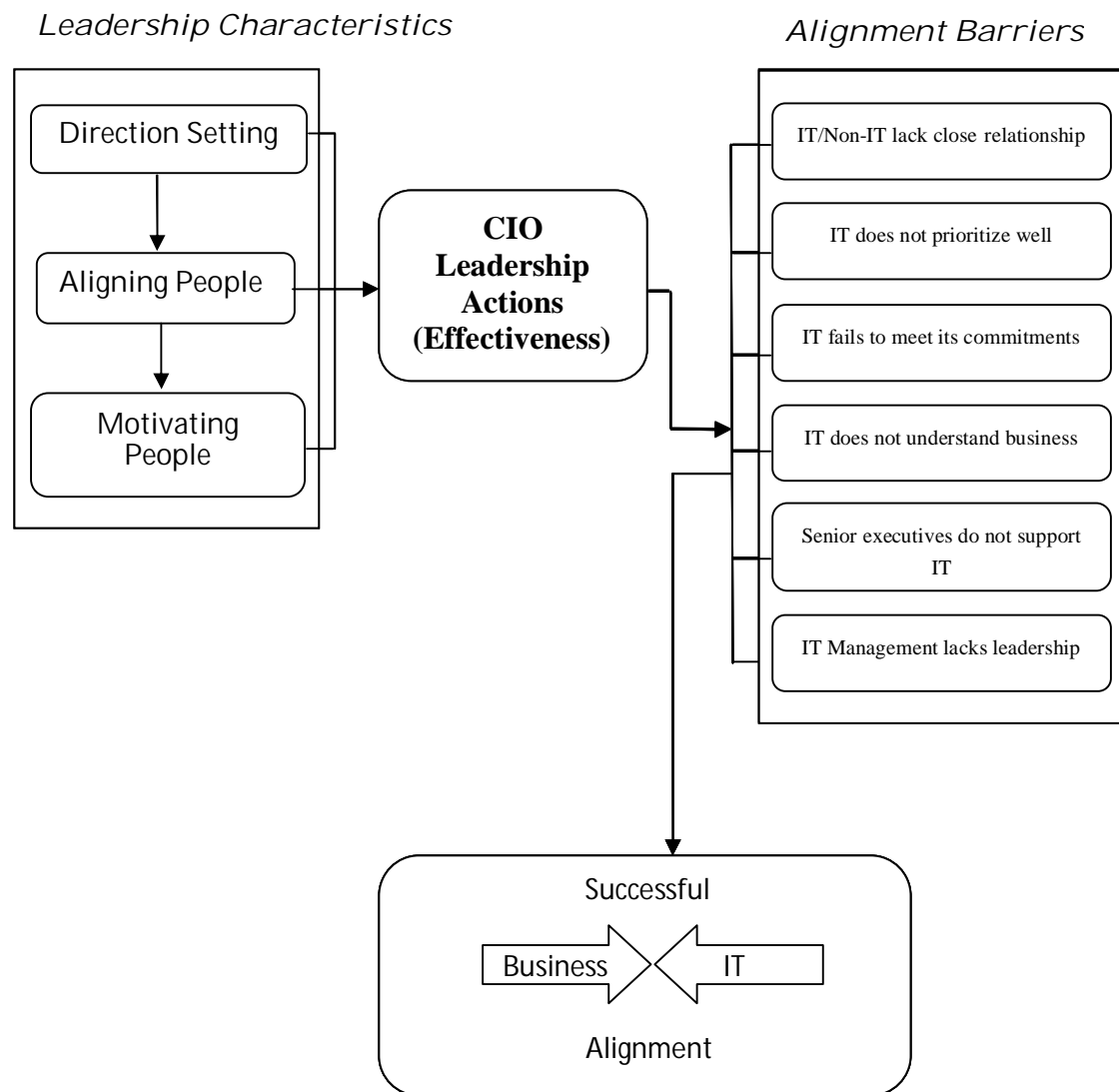


Figure 10 Research Model (Author)

4.1.1. *Ability to Set Direction*

A **direction-setting** CIO needs to possess a combination of interpersonal, technical, and business skills (Kakabadse & Korac-Kakabadse, 2000) that will help him/her analyze gathered data and decide what needs to be done in the organization (Kotter, 1999). CIOs need to create a vision, articulate feasible strategies to produce change that can be easily translated into a realistic competitive advantage (Kotter, 1999). For a CIO to create a vision, CEOs and executive peers should expect a CIO to work with them to identify what is needed by the business (Dearstyne, 2006). To create an effective and welcomed strategy, a CIO must achieve a shared vision with top executives and build support by communicating the potential strategic impact of information systems in a non-technical language (Enns et al., 2003). Karahanna and Watson (2006) identified CIOs as officers that are expected to be business partners who understand the business aspects of the organization and “Given that IS permeates all business functions, the CIO ideally needs to also have a holistic understanding that crosses functional boundaries” as some of the distinctive aspect of IS Leadership. To be a leader who creates a shared understanding of the organization’s business and information systems strategies, the CIO must exchange strategic IT-related knowledge and business knowledge with executive peers to align the business and IT strategies and improve the effectiveness of information systems (Armstrong and Sambamurthy, 1999; Enns et al., 2003). The practicality of aligning the two areas of business and IT has been a problem because of the culture gap (i.e. inability of business managers to understand the IT terms and the IT technical team not understanding corporate vocabularies) which has been shown to be an impediment to aligning the IT function with the rest of the business (Pepper and Ward, 1999; Ward and Pepper, 1996).

Chief Information Officers (CIOs) and other C-level executives struggle to understand what defines CIO effectiveness. However, Reich & Benbasat (2000) stated that management must create and maintain a system of effective communication channels between IT managers and business executives in order to ensure alignment at the operational level (Karahanna and Watson, 2006).

The CIO's perception of key issues is influenced by the relationship with the CEO Watson (1990). Armstrong & Sambamurthy (1999) found out that CIOs' membership in top management teams and their informal interactions with top management team members enhance their knowledge, particularly their business knowledge. Karahanna and Watson (2006) identified that CIOs are expected to be business partners who understand the business aspects of the organization and have a holistic understanding that crosses functional boundaries. The IT Governance Institute (Board briefing, 2nd Edition) proposes that CIOs must be business-oriented and provide a bridge between IT and the business and all executives should become involved in IT steering or similar committees. To reach an effective IT governance, a two-way communication and a good participation/collaboration relationship between business and IT people is needed (Grembergen et al., 2004). And to be successful at the executive level, CIOs need to also be a good leader, have good communication skills, the ability to think strategically, and have an understanding of business processes and operations (Gottschalk, 2007).

4.1.2. Ability to Align People

According to Kotter (1999), a leader in an executive position should be expected to communicate direction and align people and strategies by creating networks of people and relationships that are committed to achieving the vision. Communicating at the executive level in an organization also requires the CIO to act diplomatically and possess the political and interpersonal skills (Kakabadse & Korac-Kakabadse, 2000) to establish partnerships, foster collaboration, and conduct political negotiation with peers (Dearstyne, 2006). Alignment of organizational and IS/IT strategy is a necessary step in achieving competitive advantage Gottschalk (1999). Alter (2006) noted that communication and relationship building are the most sought after leadership skills in a CIO

Teo and Ang (2005) on the other hand mentioned that the alignment of information systems plan with business plans through coordination between business and information systems planning functions and activities is a key aspect of strategic IS planning. They added that in order to achieve business value from IT and better exploitation of IT for strategic advantage, such plans is necessary to ensure that the Information system function supports organizational goals and activities at every level.

Aligning people is communicating the new direction to those who can create coalitions that understand the vision and are committed to its achievement (Kotter, 1999) A CIO who communicates effectively will ensure a mutual understanding with the CEO through executive level alignment, to establish a shared vision of the role and contribution of IT to the organization (Johnson and Lederer, 2005).

4.1.3. Ability to Motivate and Inspire

Achieving a desired vision requires a leader, at all levels in an organization, to motivate and inspire people to overcome the inevitable obstacles of change (Kotter, 1999). A CIO should operate at times like a “Coach” in the organization, providing bursts of energy through coaching and feedback that supports the efforts of employees and executive peers (Kotter, 1999; Remenyi et al., 2005). According to Feeny et al. (1992) the personal characteristics of the CIO is needed for long term success and that to be a CIO requires individuals who are highly skilled, self confident and robust during rough times. Personal characteristics were also said to influence the behavior of CIO as some by their nature are innovative (Preston et. al). The continuous evolving nature of the CIO roles requires dynamism and multi skills from the individuals who hold them (Remenyi et al., 2005).

Similarly, Henderson and Venkatraman (1999) mentioned that "strategic alignment is not an event but a process of continuous adaptation and change". They went further to

say the attainment of dynamism is not tied to any specific set of highly complicated technological functionality but the ability of the organization to use what it has to differentiate itself from its competitors on a continuous basis. This is in furtherance to the management understanding of the role that IT plays in transforming as well as understanding the ability of IT to exploit the critical components of the organisation to support the strategic business decisions.

CIOs have the difficult job of running a function that uses a lot of resources but offers little measurable evidence of its value (Gottschalk, 1999). It has also been observed that skills that were previously practiced by different individual leaders and specialists in companies have now fallen on the shoulders of the CIO/IT professionals. A great deal of skill is nonetheless required from the part of the CIO in order to convince their peers (Enns et al., 2003).

Remenyi, Grant and Pather (2005) identified the myriad of challenges faced by CIOs and the recipe for success being personal characteristics needed for long term success. These personal characteristics they said is comparable to features of a chameleon who has the ability to strike fast where and when necessary and the steadfastness when the going gets tough. The continuous evolving nature of the CIO roles requires dynamism and multi skills from the individuals who hold them (Remenyi et al., 2005). Additionally the complexity of the environment and the breadth of required skills means that IS executives need social, political, business, and IS intelligence (Karahanna and Watson, 2006).

Motivating and inspiring people is keeping people moving in the right direction, despite major obstacles to change, by appealing to basic often untapped human needs, values, and emotions (Kotter, 1999). The CIO is expected by the top executives to be a team builder and open communicator with a business perspective, capable of leading and motivating peers to stick to their commitments through the reassurance of the value of the organization's new direction (Gottschalk, 2007; Luftman et al., 2004).

4.2. Research Method

4.2.1. *Why Qualitative Research Method*

Strauss and Corbin (1990, p.17) defined qualitative research as “any kind of research that produces findings not arrived at by means of statistical procedures or other means of quantification. Patton (2001) mentioned that qualitative research is the kind of research that produces findings arrived from real-world settings where the "phenomenon of interest unfold naturally". Strauss and Corbin (1990) further claimed that qualitative methods can also be used to gain new perspectives on things about which much is already known, or to gain more in-depth information that may be difficult to convey quantitatively.

According to Heaton (2004) data collection can be derived from a number of methods, which include interviews, focus groups, surveys, telephone interviews, field notes, taped social interaction or questionnaires. The author's of method for collecting this data was interview because, according to Kvale (1996, p. 14) , interviews are regarded as an interchange of views between two or more people on a topic of mutual interest, sees the centrality of human interaction for knowledge production, and emphasizes the social situatedness of research data. Semi-structured interviews are often employed in qualitative research where the interviewer needs to explore and does not have to test any hypothesis (David, and Sutton, 2004, p. 87). The researcher is often guided by the themes, issues and questions to be covered and has the option of changing the order of the questions depending on the direction of the interview (David, and Sutton, 2004: 87). A qualitative research method, which involves the use of semi-structured interviews, is found most suited for this study. Because there is discretionary use in the order and wording of the questions. In addition to this questions that the interviewer deems appropriate are asked and can also prompt for clarification when an explanation given is not clear (Corbetta, 2003: 270).

Further, case study was the preferred method because, according to Yin (2003) a situation calls for a case study when the form of research question is how or why, there is no requirement for a controlled behavior and it focuses on contemporary events (Yin 2003:p5). Case study is an excellent methodological tool for three types of research: descriptive, explorative and explanatory (Yin, 1994; Creswell, 1998). This study is an explanatory case study with the leadership characteristics as the presumed causal links for reducing the barriers to alignment. The most important is to explain the presumed causal links in real-life interventions that are too complex for the survey or experimental strategies (Yin, 2003:15).

4.2.2. *Collection of Data and Field Procedure*

The interview was targeted at Finnish companies, both service and industrial, in Finland because of the likelihood of them having business and IT aligned based on size and year of operation. Initial contact was made to a number of CIOs through the Hanken's student emailing system. The emails were sent to fifty CIOs directly with each of the emails addressing the CIO by his first name. The emails were very personal as their names were taken from Roolimalli's (2010) list of top hundred CIOs in Finland with the exception of the company from Germany. About 80% of them did not respond. Of the 20% that responded seven readily agreed to having interviews with me while the rest gave reasons why they would not be in a position to grant me the interview. Those who agreed to be interviewed were communicated to through email and dates were fixed for the various interviews. In line with Yin's (2003) advice, the CIOs schedule in terms of availability and convenience were catered for. A few scheduled interviews therefore had to be re-scheduled to suit the convenience of the interviewee. In order to facilitate the interview smoothly and to ensure that the researcher was in sync with the CIOs on issues to be discussed, a one-and-half page document of the research background was sent to all the CIOs interviewed beforehand. Additionally those who requested for the interview guide were also sent with the guide before the interview dates.

In all, seven CIOs from seven different reputable companies were interviewed. The companies that were interviewed in the order of the interview were the CIOs of Golf, Delta, Charlie, Echo, Bravo, Foxtrot, and Alpha. Six of the seven companies are well known companies in Finland and most of them are listed on the Helsinki Stock Exchange, (OMXH25). One of the seven companies interviewed, Charlie, is also listed on the Frankfurt Stock Exchange in Germany. All the seven CIOs were men. These selected companies represent different industries such as IT and communication (Charlie, Foxtrot, Golf), banking (Delta, Bravo) and industrial (Alpha, Echo). A comparative number and view from the business executive side would have been ideal to compare how the business perceives the changing role of the CIO and the impact they have made in respect to their leadership characteristics in their respective organization. This was not possible because most of the executives from the business side were constrained by time to grant interviews. All the interviews were conducted in English and permission was sought from the interviewees to have the interviews recorded and all agreed to it. The inability to interview executives from the business side does or will not compromise the outcome of the findings in anyway, because the unit of analysis is the CIO. Quoting Yin (2003), the unit of analysis which is the actual source of information might be a country's economy, an industry, individual, an organization, or the trade or capital flow between two countries. Yin further stated that in a classic case study, a "case" may be an individual. Yin quoted Jennifer Platt (1992a,1992b) as noting that case studies of clinical patients, exemplary students or political leaders, are situations of individual case studies. Interviewing a number of CIOs is comparable to an individual case study as stated above, with the CIO as the unit of analysis. The importance of having mostly CIOs interviewed was to have an in-depth knowledge of how the contemporary CIO in different settings or organizations carry out their duties in aligning business and IT.

The interview guide was divided into four parts with questions under the three leadership characteristics mentioned previously as 1) creating a strategy 2) aligning people 3) motivating and inspiring people and an initial background questions. The questions in these three parts were further guided by the barriers to alignment using some of the measurements from the strategic alignment maturity criteria in Figure 4.

Luftman and Brier's (1999) study was meant to determine enablers and inhibitors to alignment. The author however went further by using the three leadership characteristics of Kotter to find out how the leadership qualities of a CIO as envisioned by Gottschalk (2007) could help reduce or eliminate the barriers to strategic business and IT alignment.

The survey questions or interview guide were set based on the six-step process referred to as Strategic Alignment as a process by Luftman and Brier (1999). They designed and used this six-step approach in their 5 year research of over 15 industries in Fortune 500 firms. Luftman and Brier believed that the six-step process as shown in Figure 6 and further explained in Table 4 would help in maximizing alignment enablers and minimize the alignment barriers. In addition to this certain portions of the strategic alignment maturity model as shown in Figure 4 were used for the questions.

Some of the interview questions covered aspects of the six dimensions of Luftman's strategic alignment maturity criteria (2000) such as "Communications", "Skills", "Governance" and "Partnership". These dimensions were incorporated in the questions not as a check of the interviewees' organization maturity but as dimensions worth utilizing in finding out the extent to which they exist in order to test the CIO leadership skills and also its effect on the alignment barriers. The interview questions which was divided into four parts comprised of 1) background questions such as work experience, CIO membership or otherwise of the top management team, reporting relationship or function, perception or value of I.T. in the organization and the nature of their job. 2) Direction setting 3) Aligning people and 4) Motivating and inspiring people.

4.2.3. Strategy of the Data Analysis

The data that was collected through the face-to-face interviews of the CIOs were transcribed, and summarized in a way as to preserve the essential information from each interview. Through the summary, the large amount of data was reduced to an

appreciable level since the data was categorized from the initial stages through the administered questionnaire. The analysis of the data based on the research model after the categorization follows through.

5 ANALYSIS OF THE EMPIRICAL DATA

This chapter describes the seven case companies used in this study. This is followed by an analysis of the companies under each of the three leadership characteristics using different measurements. For the sake of anonymity as some of the companies were promised, pseudonyms and not the real names of the companies will be used for all the seven case companies. A discussion and analysis of the data is discussed further in the subsequent sections.

5.1. Direction Setting

For a CIO to work effectively with management and be able to deliver there is the need for the CIO to have an understanding of the business through dialogue with the top management team as well as the other executive peers in other functional areas. He needs to possess a combination of personal, technical and business skills, be able to create a vision and also set strategies that will allow him to accomplish that vision, to think strategically and also have an understanding of business processes and operations.

Skills

The CIOs interviewed have different levels of technical, business and interpersonal skills. It was observed that these skills coupled with other organizational factors or policies had an influence on how the CIOs were able to exercise these requisite skills. *“It’s been the policy of the company to have more and more people from the business side moving to work in IT”* (Bravo 2011). The CIOs that were interviewed have worked as CIOs of their company for different lengths of time ranging between 3 years to 15 years. In addition to that, they all have either a business background, IT background or both with positions relating to IT over the years.

About 75% of the interviewees have technical IT. skills but none of them were involved in the actual operational or technical work. Statements like the following were made by the CIOs when they were asked about the nature of their job routines as to whether it

was strategic or technical in nature: “*I am not involved in the operational aspect of the business, however in cases where there is a problem that needs my attention, I get involved. My job routines are strategic in nature even though you will never get rid of the operational aspect of the job. I hire competent staff to do the job and as part of my job build a governance model that helps align business and IT. I understand technology to the level that enables me to explain to management what can and cannot be done*” (Golf 2011). “*I’m not involved in the technical aspect of the business, however my approach on the technical elements is to ask silly questions that challenge the guys*”. *With the number of IT experts that we have in the business, even if I had an IT background I would not be involved in the technical stuff*” (Bravo 2011). Another CIO stated that “*My job is a little of both. It is more strategic in nature than technical as I am the mediator and contact person between the business and the IT*” (Delta 2011)

The CIOs are able to liaise with their colleagues, the top management team, as well as subordinates, customers and suppliers on a level that help facilitate their work. They spend time with cross functional teams as well to get to know more about the business processes and the product offerings or services of the respective organization.

Business Understanding

Understanding the business is very essential to the strategic relationship between the CIO and the business. The CIOs understanding of the business has been through various means like brainstorming during cross-functional teams, years of experience in the business areas of operation, informal meetings, as well as regular briefings through discussions with the top management team. “*In trying to educate business on IT issues, the CIO identifies the technology-oriented manager from the business side and introduces business-related IT ideas to them and they subsequently introduce or educate their colleagues from the business side in a way they could easily understand and accept. Trying to understand how different people behave helps in meeting their needs*” (Golf 2011). “*The process (brainstorming) is done because we have the enterprise architecture team that spend most of the time to see what the business*

priorities, business roadmaps are and translate it to midterm IT roadmaps. That is the way we try to understand the business from short to midterm plans, plus we have monthly meetings with the business leaders to understand what is going on in their side and we talk about the IT project business. So I think from my point of view we spend a lot of effort so that business and IT are on the same pitch” (Charlie 2011).

The need for IT awareness on the business side is also essential in order to make business appreciate the need for and how IT is being used to leverage the business. Both formal and informal meetings help the business side and IT to understand each other. *“I meet with the business people fortnightly, and also regular fortnight meetings with the IT staff. The regular meetings with the IT staff keep them up-to-date on what is going on and what has to be done. I believe that infrequent meetings are a weak signal on communicating what is going on” (Golf 2011).* One CIO reiterated that *“the time spent on meetings is part of the effort that puts business and IT on the same pitch. The business information officer is part of the CIOs management organization team and that brings an understanding to both sides. Additionally the monthly meetings and internal communication with the business, intranet etc. enhances each side’s understanding of the other’s business” (Charlie 2011).*

Some of the CIOs communicate IT related issues through the writing of a monthly report as a follow up of the IT management teams on ongoing projects and frequent update meetings with the business side. Additionally, there are three official meetings in the year where IT communicates to the business about what they have done and the kind of services provided and also receiving feedback from them. Other media that CIOs use in exchanging ideas and educating each other has been through the use of intranet to do a lot of communicating throughout the business. Others have different types of solution where every staff member can read from or post information. Emails is also used extensively for communication. Other medium that IT is planning to use is the use of posters to promote communication of technology issues in the organization.

Some of the CIOs admitted that they have not done their utmost best in educating the business side or creating IT awareness in the organisation. One CIO stated that *“the*

medium to educate the business about IT is non-existent at the moment. IT has planned to have two meetings within the year and subsequent years to be able to go through project portfolios with each department and also to improve the image of IT. He added that there needs to be a more formalized way of presenting new ideas from the business side to IT, though it has always been easier for business to present ideas than vice versa (Delta 2011). In the opinion of another CIO “what IT units or departments could do is to organize a more detailed course on different processes which would enable IT to have a better understanding when designing applications” (Golf 2011).

Visionary

A closer working relationship between the CIO and the top management team especially the CEO helps the CIO in understanding the business and helps him/her to be able to identify business needs together with the Top Management Team (TMT). This relationship helps the CIO to understand the strengths, weaknesses, opportunities, threats and the industry in which they operate. It also helps him/her to create a vision based on his understanding of the business strategies and on how to strategically apply IT to give them an advantage over its competitors. *“Well I will say that the CEO – CIO relationship could be closer in practice but it is very close in all the projects and probably the best example is - If we have a project where we are developing a system for instance, there is the steering group of the project. There I am never the owner - for instance if we would implement a new sales systems, then the head of sales would be the owner of the project and he or she would be the chairman of the steering board and I would be there and that is the kind of interaction happening between us and on the top level” (Golf 2011)*

The CIOs agreed that a close working relationship between them and top management team especially the CEO is very important. However it is not always the case and none of the CIOs interviewed reports directly to the CEO of their organization. Three of the seven CIOs are actually part of the top management team even though none of them reports directly to the CEO. The remaining four CIOs who are not members of the top

management team are members of different extended management teams who have close contacts with the TMT or are active members of other teams that either work closely with the TMT or have the CEO chairing such meetings. Table 9 shows the reporting relationship, CIO affiliated membership team and the total number of years worked as a CIO. In the reporting relationship by Gottschalk (1999) in an earlier study it was mentioned that the reporting relationship between the CIO and CEO was gaining prominence and those with fewer levels of reporting relationship between the CIO and the CEO had greater extent of strategy implementation. The reporting relationship seems to be contrary as is evident from Table 9 since the CIOs report to executives other than the CEO. What is true about Gottschalk's (1999) study is that 43% of these CIOs are part of the top management team and have greater extent of strategy implementation.

Company name	Reporting Relationship of Interviewees	Affiliated Organisational Membership Team	Total no. of years as CIO
Alpha	CFO	IT Management Team	11 years
Bravo	COO	Not part of TMT	3 years
Charlie	COO	Part of TMT	14 years
Delta	Vice President	Not Part of TMT	8 years
Echo	CTO	Part of TMT	15 years
Foxtrot	CFO	Not Part of TMT	2 years
Golf	Senior Vice President	Part of TMT	3 years

Table 9 Reporting relationship, affiliated membership team and total number of years worked as a CIO

It is also worth mentioning that one of the CIOs, who is a member of the TMT, does not report to the CEO but another member of the TMT. The privileged CIO stated that *"I am a member of the management board of the company and that is one of or seems to be one of the classical questions that the CIO is a member of the management team"* (Golf 2011). Another of the three CIOs who is also a member of the TMT and as such one of the top executives of his organization mentioned that *"--I think the relationship is very good because we have a governance structure which allows me that the line of businesses are part of my management, with each line of business as a business information officer reporting to me and the COO of the respective line of business"* (Charlie 2011). *"We work very tightly with the CEO so we meet almost daily, we kind of*

need to have the same target and goals and priorities in what is important to be done and what is important for later. We basically need to know the same things” (Delta 2011).

The CIOs felt that by understanding the business ie. its processes, products, services etc. through close interaction with TMT they are able to make them aware of the information systems available and which ones will be appropriate to support the smooth running of the business. The executives from the business side often tries to get ridiculous things done and the understanding of the business and the close relationship that exists between the CIO and TMT help them to probe further and to slow things down if they feel that it is not fully aligned with the strategies of the business goals. *“Things used to happen and there was no responsibility on the business side and I’ve been trying to change that. If I have the management team in my back I am very confident to push things” (Alpha 2011). Actually the ones that people from the business side see is actually me (CIO). When they have a new idea or they have a problem, or they want to launch some fancy things, marketing campaign or anything they come to me. Then we have to discuss how to implement that. So I’m kind of the interpreter between IT in many cases. (Delta 2011).*

Strategic thinking and business and IT related idea exchange

With the business knowledge, the CIOs are able to advise their peers on certain “fancy” things they want to have implemented. They are able to reach a compromise with them on what is best and attainable at what time using the appropriate technology. The companies are able to save money through the timely advice of the CIOs on how the agility of the firm’s competitiveness can be raised. This usually has a positive impact on the firm in the long run. *“IT has been saving a lot but IT is criticized. Most of the time the savings are not measured. Initial cost is high but it takes time to see the benefit. And that is why the follow up after the initial investment is important to make sure you keep the budget and it takes some time” (Foxtrot 2011).* One organization saved millions of dollars through the dynamism and knowledge of the CIO. The CIO used his knowledge

in IT to use the human and IT infrastructural resources of the business without incurring any additional external cost to install a unified communication system for the company. *“Like this unified communications, the virtual meetings were created for our organisation and we managed to reduce lots of travelling cost, and its millions we are talking about. So we invested a few millions to this service but the outcome for business and benefit was great, saving time and money because time is valuable. I think even calculating the real cost of tickets (excluding transit, hours in plane etc.), it’s payback time was less than 3 months and a very good one”* (Foxtrot 2011).

The companies have benefitted from the leadership of the CIOs through forming strategic partnership with their customers, suppliers and peers. This strategic relationship helps CIOs to know what is going on out there and also helps them to get more information from them about what is going on in the competition. With such relationships, surveys are held and the views of these external parties are valued. One of the companies mentioned that the agility of their game is speed and for that matter it takes very short time for other companies in the industry to copy so deploying IT faster than others is often not the case for them. Because of that it has not been worthwhile taking the lead all the time. The rest have been able to deploy IT opportunities faster than others either all the time or most of the time. The following statements were made by some of the CIOs on the issue of deploying technologies faster than their competitors: *“When it comes to our industry’s technology we are clearly number one, we have the best solutions, controlling systems etc. and I don’t think the business can expect anything less from IT as well. So I think that yes we are ahead and we are even piloting some of the technologies and the way we are introducing those technologies is a bit unique”* (Echo 2011). *“I guess more or less this service that we render is the first place in the world where that kind of thing is done so in that respect I would say that in many issues we are in the very leading edge in our business compared to other players. But then on the other hand its quite common that in the Nordic countries (Sweden, Norway, Finland) people tend to do or are easily adapters of technological things”* (Golf 2011). *“For e.g. if I look at our internal IT and compare it with other Finnish or International companies based on different meetings I have been participating, I have*

learnt that for e.g. our solutions in unified communications area are really excellent”(Foxtrot 2011).

On the other hand it came to light that the readiness of customers at any particular point in time also affects the introduction of or the acceptance of technology. One CIO mentioned that one mobile technology which has become so popular today was first introduced by them in the 1990’s and the adoption or response was a negative surprise to this same company. Recently when the technology was launched in another country, it received ten thousand downloads on the first day.

There is a correlation between the perception of IT by the business and the kind of support that CIOs receive from their peers. This seems to work in a cycle in that if CIOs have support of the business executives, they are able to turn their IT organization around in support of the strategies of the business. On the other hand, if the IT organization is perceived as a positive tool for the business, it affects the kind of support the CIO receives from the business and his/her ability to coerce them into accepting his/her visions and strategies. *“I think we have past that stage where business sees us a cost of doing business. It is not just a cost, it is a very integrated part of any business we give. All the processes behind our services should be automated otherwise it gets too costly to produce the service. I think we are in the middle somewhere; we have been quite near the business anyway”* (Delta 2011). *“I think the expectation is extremely high based on the fact that our whole industry is IT based. Information is the most important thing in addition to the people and therefore we are extremely dependent on I.T. If our system or network is down, we are closing our offices so the expectation is very high. And then the question is how satisfied are they to the contribution of IT and I think in that area we are getting improved”* (Bravo 2011). *“Yes IT is seen as very important in the organization. If our whole system goes down then everything goes to a standstill so in a service company the IT is more critical to their successful operation even though it is also important in the industrial companies”* (Golf 2011). *“They see it as an asset because there are three different kinds of the CIO- functional, transformational and the strategic one. Because we are driving business innovation especially in the mobility topic and memory technology, we are really driving business innovation and also*

sharing it with our customers in driving revenue and also the whole media and press facilities” (Charlie 2011).

5.2. Aligning People

Communication is an essential element in getting issues across to people and erases assumptions and unfounded fears. Effective leaders are expected to communicate ideas, instructions etc. to subordinates, peers or colleagues and even superiors. Without effective communication, ideas or intentions no matter how well intended will not be conveyed. In order to align people, the CIO is expected to communicate directions and align people and strategies. He needs to do so by creating networks of people and relationships all around him. Diplomacy, tactfulness and interpersonal skills can get him there. The CIO should be able to align the business plan with IT plan in order to achieve competitive advantage.

Creating Networks

In order to get the vision of the CIOs across to the people, both subordinate and peers, he needs to form alliances with all manner of people. CIOs use both formal and informal ways to get this done. The CIOs emphasized that forming relationships and communicating with them helps to push their ideas through. Building relationship comes with trust and time. Aside an individual CIO's nature or personal characteristics that help him to make things happen, it was evident that the longer CIOs have been in the business the easier it is for the colleagues to trust them.

Relationship Building

CIOs build working relationships with peers more often than not in a casual and informal way. They believe that the informal way of doing this helps a lot. They have

done so through having discussions over coffee, during breakfast or lunch and sometimes through one-on-one discussion with their peers in their own offices. During these informal meetings, CIOs are able to talk about certain initiatives, projects or strategies that need implementing. By building such informal relationships, they are able to garner support from the other business executives before the proposal is formally put before the board. *“One of the important parts of my job is to be the link or business partner of our business managers so what I try to do is to use as much time as possible, to find in their calendars mainly to have this short sessions where we have the statuses on how happy they are, and what their needs are”* (Foxtrot 2011). *“What I do is I invite business partners to my OS meeting or coffee corner sessions so that they are sharing views internally about how we perform, what are the advantages etc. also I’m sharing the external views because how the press, the media, the analysts are seeing us drives profit”* (Charlie 2011).

To be able to deliver as is expected of them, a CIO is expected to be robust during tough times. They use all kinds of sniffing tactics to identify individuals’ natural tendencies and work with them accordingly. One of the CIOs stated that:

“So what I try to do, I tend to kind of identify persons who are technology oriented. In that respect I feel it is natural that they are interested in new things and new ways to adopt technology in their personal life then it’s more likely they will do it also in business. I mean that if I have identified that kind of people in the different parts of the company then its much easier to introduce ideas to them” (Golf 2011).

It is not always easy for every individual to be easily convinced by the other’s idea irrespective of how much explaining is done and the means by which it is done. One CIO said that he explains to those who he thinks buy his ideas and convinces them about it. They in turn explain to their business colleagues because they trust them and that works at the end of the day.

CIOs try to win the favor of their business colleagues and TMT by demonstrating true leadership skills in their knowledge of the business and at the same time making IT feel that they are an integral part of the business. By nature some individuals have the ability

to influence colleagues, even bosses to accept their proposals when they are convinced about what it can do for the business.

Most of the CIOs have meetings either on a monthly or bi-monthly basis with either TMT, IT staff or the peers in the organization. Both the informal and formal meetings are ways that are used in getting to know each other's area of business and selling ideas to the business. In creating and extending the network of people to work with, meetings have been organized for stakeholders in some cases for them to voice their opinions about how they perceive IT and the necessary contributions they can make to the business. One of the CIOs stated that *"I'm willing and I'm energized to use the time on people. Irrespective of whether they are suppliers, our own people or our customers. So that is the kind, I will say that I see myself more. I am not a specialist I am more like a leader"* (Echo 2011). The networking takes various forms , *"We sometimes invite our customers here or they invite us there and we discuss and exchange experiences and best practices. Also some of my guys have been supporting their business by going out and offering presentations and meetings without charge"* (Foxtrot 2011).

The networking has continued with media coverage marketing the business to the world through the dynamism and able leadership of some of the CIOs. One of the CIOs interviewed has been nominated as the CIO of the year 2011. The reason for his nomination was that *"He is a skilled interpreter of IT and business, good social and networking ability. He has been able to solve the perennial problem: the IT and business personnel speak the same language in the organization. Studies show that he also understands business in general. He has come close to the business, and he has not agreed to nothing more than the infrastructure owner"* (Tietoviikko 2011). The CIOs are doing a good job that is recognized not only internally but outside the confines of the their organization. Another report about one of the seven CIOs was that *"This CIO believes a modern CIO should engage with customers, analysts and other influencers of opinion outside the business as well as staff inside. The social media can provide effective tools for communication both inside and outside the enterprise. He has gained a reputation for forward thinking, for instance, he has always looked for ways to improve efficiency"* (Tech's Top 25 - WSJ May 2011).

Ability to Convince

The CIOs have varying strength, strategy and character of either convincing or persuading the nay-sayers and those with doubts on their minds, to commit to strategy implementation. On occasions where ideas which they feel strongly about have to be accepted they have done likewise. Some of the statements that the CIOs made on how they handle this are as follows: *“There is no probably right way or wrong way to do it. It comes back to the personal preference and in my case very fast oriented person, so whatever I present I base my case on facts like this, this and based on that my analysis is that we have to do this and that and then my conclusion is this and that’s how I normally work and then I explain to you my analysis of the situation and based on that my conclusion will be this. And then I rest my case that this is what I believe we have to do it, because I have done it 15 years and have been doing it this way more or less and if people start to know me then normally they kind feel, that the kind of analysis and conclusion is often difficult to argue.”* (Golf 2011) This CIO added that normally it is very difficult for the nay-sayers to argue further, based on the fact-based arguments that he puts up. Those who still feel adamant after this are those who base their decisions on emotions. He stated that he is not usually good at those who deal with emotions and not facts. *“Then on that kind of situations obviously I should adapt my way of convincing, if I get the feeling that you are much more feeling person then I should change my tactics about how to influence on you and that is my weakness. I am not good at changing my tactics”* (Golf 2011)

Even though the Charlie CIO has not faced any opposition to his strategy implementation and erasing doubts on the minds of the business executives, he said that those people have to be part of the strategy development. Additionally, he said that you have to bring the different parties together and be transparent. It is important that you go for a compromise by trying to think about what is important for the organization and be ready to convince the business. One CIO stated that with time the amount of effort that is needed to convince those who doubt what is put across from the IT side eases. He

mentioned that *“But I will say that it’s much better nowadays than it was but they are challenging me all the time. If I am able to give a good reason or explanation to them they definitely are accepting so I have to have a very good reason to do something. With good reason and convincing they accept and every now and then I am getting external consultants to say the big words that now this is the way things are going”*. (Alpha 2011)

When the speed of execution is not in line with the expectation of IT as to when it is time to deliver, in certain cases the business is asked to cut the content, cut the scope of what needs to be done, increase the resources and the investments. A CIO made this statement: *“I’m a perfectionist anyway. I am not happy with the overall speed of execution where we are and I think none of our executives and company board etc. has been disagreeing with the direction that we would like to take and they have even agreed to the speed that we would like to achieve. Those who say they are not in a hurry with the speed of execution, will always be in a hurry at the end”* (Echo 2011). Another CIOs statement on the issue of doubts and opposition was : *“Yes is the answer to being able to identify those who oppose our strategies but we do it in a very civilized way so that when you know who you are dealing with then we usually get around the main questions. I talk to everybody until it gets solved. We are not all that big company but have most of the staff in the branch offices. But basically we are all in here in the head quarters so we know each other. We don’t need to travel anywhere or make difficult arrangements. We can just walk to the next door”* (Delta 2011)

5.3. Motivating and Inspiring People

Motivating and inspiring people is keeping people moving in the right direction, despite major obstacles to change, by appealing to basic often untapped human needs, values, and emotions Kotter (1999). The CIO is expected by the top executives to be a team builder and open communicator with a business perspective, capable of leading and motivating peers to stick to their commitments through the reassurance of the value of the organization’s new direction (Gottschalk, 2007; Luftman et al., 2004).

Team building is an important part of the CIOs job of keeping people moving in the right direction. The understanding of the business that the CIO has helps him to be able to know the kind of teams to form through making the right contacts. More often than not the power that the CIO has to be able to do this has partly to do with the authority that is vested in him/her and the recognition that he/she receives from the TMT. Both formal and informal meetings are held with the TMT and also the different committees or extended management groups to enlighten them on how the technological resources of the company are and can be deployed to meet the strategic goals of the business. One of the CIOs mentioned that *“We have the Enterprise architecture team that spends most of the time together to see what the business priorities, business roadmaps are and translate it to midterm IT roadmaps. That is the way we try to understand the business from short to midterm plans. Also we have monthly meetings with the business leaders to understand what is going on in their side and we talk about the IT project business. So I think from my point of view we spend a lot of effort so that business and IT are on the same pitch”* (Charlie 2011). Another also stated how they go about their business of enlightening the top management. He said that *“We have the function or board called B.I. Board which our CEO is heading and he is the chairman of our business infrastructure board. I’m meeting him every month in practice, in one way or another because I’m part of the extended management team as well. So we have a monthly meeting where we go through where business status is and where the business is going and the biggest challenges, and I’m part of that discussion”* (Echo 2011).

In trying to get the peers more involved through encouragement and coercion, functional heads become partners by way of them being the owners of the various sub projects which are needed by the functional heads. Getting the functional heads to own the projects fosters unity and participation and bring understanding to both sides through sharing of some of the details that needs taken care of. *“If I would need for eg. a typical IT program called ERP and I start to implement the ERP and the CIO is the business owner for IT, it will never succeed. I will say in our case the executive VP of equipment is the business owner and he is present in every single group and he is a member of the steering group. He is participating in the program meeting”* (Echo 2011). Another CIO gave an example to lay emphasis on how ownership of projects by

the business helps. *“If for instance we have a project where we are developing and systems, there is the steering group of the project and I am never the owner. For instance if we would implement a new sales systems, then the head of sales would be the owner of the project and he or she would be the chairman of the steering board and I would be there and that is the kind of interaction happening between us and on the top level”* (Golf 2011).

An aspect of the CIOs job lies with updating themselves with the technologies that are coming up and those that are obsolete. Time is therefore spent as a consequence in helping the business executives in using the right technologies that will help them produce results and put them in a competitive advantage. *“With good reason and convincing they accept and every now and then I am getting external consultants to say the big words that now this is the way things are going”* (Alpha 2011). This is essential because there are times that business executives want to acquire a new technology for use and have to go through the trouble of explaining to the CIO for what benefit the technology will be to the business in terms of its existing process and how it aligns with the overall strategy of the business *“We have been working to get the commitment and also create the understanding in the company that if you need some changes or improvements you shouldn’t go to the IT guy and say fix this for me. You should go to the process owner who understands or is responsible for that process and explain to him why you think we should change the way of working in that part. Then IT supports if needed to implement the change in reality”* (Foxtrot 2011). During such periods, the CIO works well on resource allocation by reaching a compromise with the different departments that needs new technologies for their operations. This is done in such a way that no party is aggrieved but come to an understanding of a shared project that benefits all *“Group A wants something and Group B wants something else but sometimes you don’t choose either of them. You can choose a compromise which is something else by convincing them that Group B’s will be a good application for you too. Otherwise they buy some other application and the whole thing will be like disparate systems. In this case they don’t think or feel offended that you preferred the other over theirs. So it is much more understanding the relationships and understanding the behaviour of people in different situations”* (Golf 2011).

The CIOs have the difficult task of being a change leader in order to bring new ways of doing existing business and helping to introduce new products altogether. On that note it was mentioned that: *“We have agreed with the inhabitants of one village of about two hundred people that we will scan all their mails and have them delivered electronically. What it means in practice is that we scan whatever mail they get first. So if the sender [supplier] can send it electronically then we send it electronically, if they cannot we scan it and deliver electronically. I guess more or less it’s the first place in the world where that kind of thing is done so in that respect I would say that in many issues we are in the very leading edge in our business”* (Golf 2011).

CIOs facilitate the business processes and also bring disparate systems of the company together in order to improve information flow. *“When I joined the company the various business units had different reporting systems with each showing different figures. Comparison of the figures was like comparing cats and dogs and when you consolidate these information it was not comparable. I told management that we needed a new business intelligence strategy and they were so proud that I was able to help in this regard”* (Alpha 2011).

Spending a lot of time with the different players such as customers, suppliers, peers and TMT puts the CIO in the center to effectively coordinate the various needs of the business as the nerve center of their organization. One of the CIOs mentioned that they have a platform where they discuss with customers and incorporate their ideas into the decision-making process and product development of the organization *“We have a tool inside the organization where we collect feedback from many sources and encourage our end users to come up with ideas. Whether they are internal ideas or ideas related to some customers or partners, because in the tool we can then kind of address those questions right and actually this whole process, Eureka is the name of the platform, is actually feeding our governance process partly also so we load the ideas from Eureka and there are councils who actually go through the list to see what should be done about these ideas”* (Foxtrot 2011). A closer cooperation with the suppliers is also a recipe for success. Suppliers are able to tailor the needs of different organizations and provide the requisite support as well as the introduction of updates to the system

CIO Skills

The CIO skills span a lot of areas. The CIO is expected to have multiple skill set both in IT and business. Six out of the seven CIOs interviewed have about eighty percent IT background and twenty percent business background. Thinking about the fact that none of the seven CIOs interviewed is actively involved in the technical aspect of the business is a confirmation that the CIOs are actively involved in the strategic roles of their leadership positions. One of the CIOs stated that it has now become the policy of the organization to move more business people to the IT side *“If you look at our IT decisions, only one of us is really having an IT background. That’s the status and there are many IT managers who have business background. but for e.g. our head of architecture is really an IT person with business understanding”* (Bravo 2011).

One of the interviewed CIOs does not have an IT background at all and he joked about the fact that he usually makes silly questions in order to challenge the IT guys to do their work. *“Talking about technical elements, my approach is that my role is to make silly questions and then challenge the guys by authority with the full awareness. Our organization has about two thousand people in IT with so many experts. In such a case you have to keep out of being the expert even if you have an IT background and focus on the strategic part”* (Bravo 2011). This CIO added that he knows technology just well enough to be able to communicate and enlighten the TMT on what is going on and what can be achieved with what.

The interviewees have different ways of adding value to the business from both internal and external view points. Externally, they use the media such as TV, newspapers and even the new social media such as Facebook, Linked, Twitter etc. to let the public know the technologies they have deployed and how they are using IT to leverage the business. Membership of external CIO bodies, and also technology newspapers help in bringing to light what the CIOs are doing for their organizations and what other CIOs are also doing. One of the magazines had this to say about one of the interviewees: *“He has not only made the CIO role more visible inside the company (collaborating with their CTO, developers and support managers), but also made himself available to the world outside the*

organization's headquarters. *He's meeting with our customers, speaking at conferences, being quoted in The Wall Street Journal, blogging, tweeting basically doing anything to help fellow IT leaders better understand and utilize the company's portfolio of complex enterprise products*" (Computer World, 2010). Internally, CIOs help celebrate success with the IT staff by letting them know how their effort is helping in moving the business forward and how the business perceive what they do as well as the outside world. *"My IT staff know that they are an important part of the business because our business is very much related and dependent on IT. I mean you are not able to have an offer from us if the system is not working. So my staff realizes that everything is related to IT and the best time for us is that we are hearing nothing like system breakdown"* (Alpha 2011). The TMT of one of the organizations is very supportive and appreciative of what the IT staff are doing. *"The IT staff do feel an important part of the organization especially because they feel that our top management is so strong in supporting what we do. We have a pretty good employer survey results"* (Echo 2011).

Recruiting, Training and Retaining

The interviewees agreed to the fact that depending on the needs of the business at any point in time, they either recruit from outside or use internal staff as the need might require. To make their work easier for them to concentrate on their strategic leadership role, they do their best to hire the best brains who can deliver at all times. Some of the companies use a mixture of different elements such as its own staff, local consultants from Europe and also consultants from outside Europe to get work done. *"They also have a long term plan of the kind of people they would need for their staffing by taking aging and the like of the Nordic countries into account. The company hires competent people who have the obligation of contributing to the great customer experience and values of the organization"* (Bravo 2011). *"There is always a careful selection and combination of needed staff for jobs that has to be carried out. Preference is given to existing staff when the competence area that is needed requires knowledge that is grown by employees internally. When it comes to moving to new platform areas, a combination of new hires and existing staff are employed as training only existing staff could be*

costly and time consuming” (Echo 2011). There are times that consultants assisting with a project are recruited when the projects tend to last for years in order to save cost stated one of the CIOs. All the CIOs recruit brains that are master-minds. These are some of the statements made by the interviewees in relation to their new hires and team: *“Our company has very good HR process supporting the managers and I also have good IT managers in place with strong leadership capabilities which I consider an asset”* (Foxtrot 2011). *“The older you get the more you understand that actually the better the team you have the easier your life is”* (Foxtrot 2011).

For some of them the process of recruiting involves the whole IT team which makes the recruited a part of the family right from the beginning *“I think really our main motivators are that we have been very careful with recruitment and we try to make sure that everybody gets along with each other so in any recruitment the existing team is always involved and everybody gets the chance to meet a new person before we go”* (Delta 2011).

The IT staff are given training as and when needed and this is to ensure that competence development of staff are taken care of in order to prepare them for new challenges in a fast changing business world. *“Because I communicate the strategies and visions or roadmaps to these staff, those who are not ready for the change obviously know that they either will not fit in or do not want to be part of the journey. The better the team you have, the easier your working life gets”* (Foxtrot 2011). Substantial sums of money go into staff training to ensure that the IT staff keep to the fast pace of technological change and knowledge renewal or upgrade. *“As part of the CIOs job, staff are given on the job training and a lot of financial resources have already gone into training staff as well as hiring dedicated and focused staff from the job market”* (Charlie 2011). Another also emphasized the importance of training by making this statement: *“Staff are given training once in a year and they have the flexibility to choose when they want to have the training. However the company ensures that at least within every 2 years, a member of staff would have undergone the training session if the previous year’s session was missed by that staff”* (Alpha 2011).

Staff retention is an important factor in the management of the human resource of any organization. As a result staff are motivated through diverse ways in order to keep the best brains loyal to the organization. Using their interpersonal skills, the CIOs identify the various ways that staff can be motivated. Some do receive nice holiday packages as an incentive. Some of the staff are motivated by challenging jobs and nothing else, others are giving bonuses which translates into a full month's salary or more. One of the companies has quarterly sessions where names of those with very good performances are collected and awarded in the presence of about two hundred staff. These staff who are elevated are given movie tickets or bottles of wine. The substance of what is actually given is not as important as the appreciation people get for the contribution they have made towards the big picture and being elevated in the presence of a big audience. *"So that is kind of very simple and we have done that for a year now and very soon it became like when people go to the information meeting then they are always asking for this. (Golf 2011). "One of my ways of motivating my staff has been through giving them freedom. I identify individual's needs and give them support accordingly. I have identified and support these categories of IT staff: Those who have the skills but need to be motivated and are given second chances - I am tough on these especially if their attitude could have or is having a negative impact on their work. Those who can motivate themselves are giving the freedom to operate and those who do not have the skills but have the motivation to work are given the requisite training. Those who are challenged by exciting jobs and do not want their jobs to interfered with are giving that option to operate with minimum interference" (Echo 2011).*

On occasions that staffs have had to be dismissed either because of non-performance, organizational policies, financial or economic downturns, it has been done in such a way as to leave no ill-feelings. *"During my career years I had need to lay off people as well, either because of financial or performance reasons. With the exception of two cases, I'm still a good friend of those people, so I think the key thing is that when you need to execute the hard stuff you need to even lay off people at the extreme of it but you need to, in most of the cases, guide the person into the right direction. Make sure that you really give a good reason as to why we are doing this in this way so that the people*

understand the rationale and the reason behind so that they don't take it personally. So I don't treat you this way because I don't like you- that is not the reason" (Echo 2011).

One of the CIO leadership roles mentioned by the Computer Sciences Corporation CSC (1996) is that of being a coach. All the interviewees have acted as a coach to both executives and the IT staff, receiving feedback from them. They translate problems into opportunities and make their contacts feel they are an important part of the big picture. In effect the nature of the CIOs job is such that he has to solve a myriad of problems that cuts across all functions of the organization both horizontally and vertically. There are times that they have to challenge certain inputs or instructions that are given them. *"So it is business as usual that you might have targets that other guy set and you need to verify that it is really good for the organisation and if not then we need to find another solution. But you need to be active also, you do not go for every guideline that come. You need to challenge sometimes"* (Foxtrot 2011).

The CIOs do receive feedback as part of the need to communicate. Some do coach and receive feedback on a monthly basis from employees and some of the teams that they manage personally. There are also weekly team meetings where they discuss salaries and goals for the business and the department for the coming year. Others, through monthly department meetings and unofficial weekly meetings in a relaxed environment, are coached and receive feedback during annual personnel surveys etc. During these meetings IT staff are asked about issues affecting their jobs and how good or bad things are. One CIO stated that *"when my staffs are satisfied, I am also satisfied. The IT staffs really feel they are an important part of the business because the whole business is very much dependent on IT, without which the company cannot survive its business at all"* (Alpha 2011). There are occasions when a CIO communicates with his staff when there are role changes from the top and has to be communicated to the IT staff, ensuring that each individual know his/her roles and responsibilities at all times. One of the CIOs admitted that coaching has been one of his weak points and resolved to spend quality time with the individuals every other month so that they could review issues on previous year, target for current year and then discussions on their development with a period of about 90 minutes each with each of the IT staff.

There is focus on internal communication as discussions are held to inspire the people to move towards the same direction. Additionally there are platforms for communicating with customers and supporters. *“The company has invested heavily in e-learning to facilitate communication across all levels”* (Foxtrot 2011). There is open communication about what they do and what they have in their development program. The CIO stated that *“It is important that you constantly communicate back about all the good things happening to the people. He added that transparency, communication and avoidance of trying to hide in the box are very essential”*. (Foxtrot 2011). *Transparency is one of the ways to overcoming major obstacles to IT implementation. I try to stay away from any black boxes because it does not help*” (Charlie 2011).

Delivering on Schedule

The issue of completing work on schedule has been with varying responses. On average the response has been so far so good. None of the interviewees mentioned financial constraint as a reason for a delayed work schedule. Even though one of the CIOs said that when management takes a decision that IT budget is too much at a particular point in time, he has to weigh which one has to be given up, suspended or carried on at the time. Not all of the CIOs have faced challenges with project implementation, either because of top management support or because of IT governance in place. Other reasons for not facing this problem had been the shared responsibility between IT and the project owners on any project that is handled. About four CIOs stated that there is no project without owner and the business executive who initiates the project is usually the owner of the project. In situations where project are initiated by more than one business unit, a compromise has to be reached between the units involved for one of them to take responsibility of the ongoing project. Some of the reasons that the CIOs gave for delayed project delivery were that: *“This has happened because of either changing business issues or delays from the side of software providers. IT is able to work on schedule with uncompromising deadlines. There are steering groups on IT projects who meet every sixth week and also communicate through minutes and updating every participant of his roles and responsibilities in key areas of the projects”* (Alpha 2011). Another also added that delays do come sometimes because of changes in requirement

details that come from the business rather late. Delays has also arisen as a result of certain changes in government regulations on VAT for instance etc.

Another said that the reason for delays in their IT implementation has partly been due to the fact that the company uses part of the production resources themselves as much as they are selling to or providing to their externals. He added that *“Even though CIOs are squeezed almost on a daily basis, budget has never been a problem. Completing tasks on schedule is an area that definitely needs improvement”* (Foxtrot 2011). What he said they need to do is to make compromises between putting the customer first and also weigh the effect of certain investments on behalf of the company at any point in time. Another CIO reiterated that its important to break down projects that are due in years to come into smaller elements of three months package at a time so that if there is a delay in one of them, you become more knowledgeable by learning from the previous as you set up the next three months project. He added that *“The IT staff is able to complete tasks on schedule most of the time and they have been successful in delivering on schedule”* (Echo 2011). Too many ongoing projects at a time sometimes have a negative impact on deliverables as the human resource to deliver remains unchanged most of the time. *“There often about 100 ongoing projects at a time with some demanding less resources and flexible time schedule but those that involve lots of resources that requires management’s attention are on the average 70-80% on schedule”* (Delta 2011). Because the market environment changes rather fast the Charlie CIO ensures that they are able to work within time. *“Additionally, about 90% to 95% of the time, IT is able to complete task on schedule even if it means putting in additional resources. And this ability to complete task on schedule is one of our key measurements”* (Charlie 2011).

5.4. Evaluation of the Alignment Barriers, Then and Now - The Influence of the CIO Leadership Characteristics

A lot has changed since the time that the barriers to alignment were compiled about years thirteen years ago. Some of the barriers hold true today and others have changed

with time. CIOs were accused of failing in their duties of bridging the gap between the business and IT and also failing to use IT to leverage the business thereby unable to put their organizations on a competitive edge. During those periods, CIOs were mainly seen as operating to keep their organizations' businesses up and running and incurring costs to maintain systems. Today the CIO role has changed. One of the interviewed CIOs mentioned that *"When I took over this position, I think at that stage the organization's internal ICT was very much seen as wires and servers type of an organization"* (Foxtrot 2011).

Today's CIOs are working more strategically than operationally and have become the mediators between the business and the IT sides of the organization. The leadership characteristics as exercised by CIOs today have changed a lot of things and influenced the barriers to alignment. Table 10 below, I have to put the barriers on a scale of 1 to 5 representing the severity of the problem. The six barriers were all given an initial scale of 5 to represent the seriousness of the worsening situation as at the time they were compiled. "Then" refers to the period when the barriers were compiled and the CIO was seen as a technical person who is unaware of the leadership roles engrained in his position. "Now" refers to the modern situation of having a CIO who is a strategic visionary of the business.

From the leadership role engrained in the new CIO and the perceived responsibilities of the CIOs interviewed during this study Table 10 shows how the author graded the barriers after the study. A scale of 1 to 5 is used to measure the severity of the problem, with 5 being the most severe, and 1 being the least severe and 0 standing for non-existent.

Period	IT/Non-IT lack close relationship	IT does not prioritize well	IT fails to meet commitments	IT does not understand business	Senior executives do not support IT	IT Management lacks leadership
Then	5	5	5	5	5	5
Now	3	3	1	1	3	0

Table 10 Grading of the barriers after the study

The lack of closeness between IT and Non-IT has improved dramatically but still has a long way to go. Closing the relationship gap between business and IT begins with decisions from the top. Decisions from the top entail IT being part of strategy formulation towards organizational goals right from the beginning and the TMT having the power to allow this. Three out of the seven CIOs interviewed are part of the top management team and involved in the setting of strategic goals for the business. The others are part of other extended management teams, steering committees or IT committees for the acquisition and use of IT. Through the various management teams and steering committees of which the CIOs are part, they are able to voice their feelings and communicate to the business in a language that is easier for the business to understand. The CIOs have all been able to put up IT governance structures in place and this has somewhat eased the burden of who does what through specifying the decision rights of IT resources. Through the implementation of these IT governance structure, CIOs have been able to put sanity and control in their departments as well as the entire organization. Some of the TMT from the business side are getting more and more interested in the IT side than before. One CIO stated that there is a very strong IT ownership in his organization and never in his 15 years career as a CIO has he felt this kind of strong IT ownership in an organization.

This feeling of ownership is somewhat as a result of the interest that CIOs are showing in the business. The feeling of not only good-for-the wires of the organization but one towards the business and its customers as whole is changing. Through the leadership qualities of the CIOs, they are beginning to sell the value of IT much more than before to the business. This is the only way by which TMT will begin to appreciate the value of IT and come to the realization that IT is not just as a cost to the business but as an indispensable tool and asset to the business. Despite the change in leadership qualities and the renewed interest by the business in IT issues and investments, there is still the feeling of some form of “emptiness” on the part of some of the CIOs. One CIO mentioned that the CIO is often a “lonely man” in the organization. However, the leadership quality of setting direction which involves working with TMT to be able to produce change that can be translated into realistic competitive advantage, has bridged the lack of closeness gap between the business and IT. Steps have been taken towards

the journey of a thousand miles, but there is still a long way to go. For this reason the author's rating for the closeness based on these changes is a grade of three.

Prioritizing IT projects well involves deploying technologies into corporate strategies in a timely manner. This involves a careful balancing of the twelve elements of the strategic alliance model (SAM) as shown in Figure 1 and further explained in Figure 2. This is a relation born between the business strategy, the organizational infrastructure and processes, IT strategy as well as IT infrastructure and processes. The SAM explains the emergence of IT from the traditional static role to a role based on dynamism to meet the changing needs of today's business environment. With the CIOs' leadership role of involving itself in the interest of the business as a strategic visionary of aligning people, motivating and inspiring people, institutionalizing IT governance etc. they avail themselves for opportunities to capture relevant technologies in order to build the needed infrastructures for use. This prioritization problem requires the attention of both the CIO and the business executives. However the onus of prioritization still falls on the CIO to be able to convince TMT about IT opportunity and its value. Judging from the transition from the static IT role to the strategic role applied today, the prioritization problem will be rated with a grade of three as both sides still need each other to work on this.

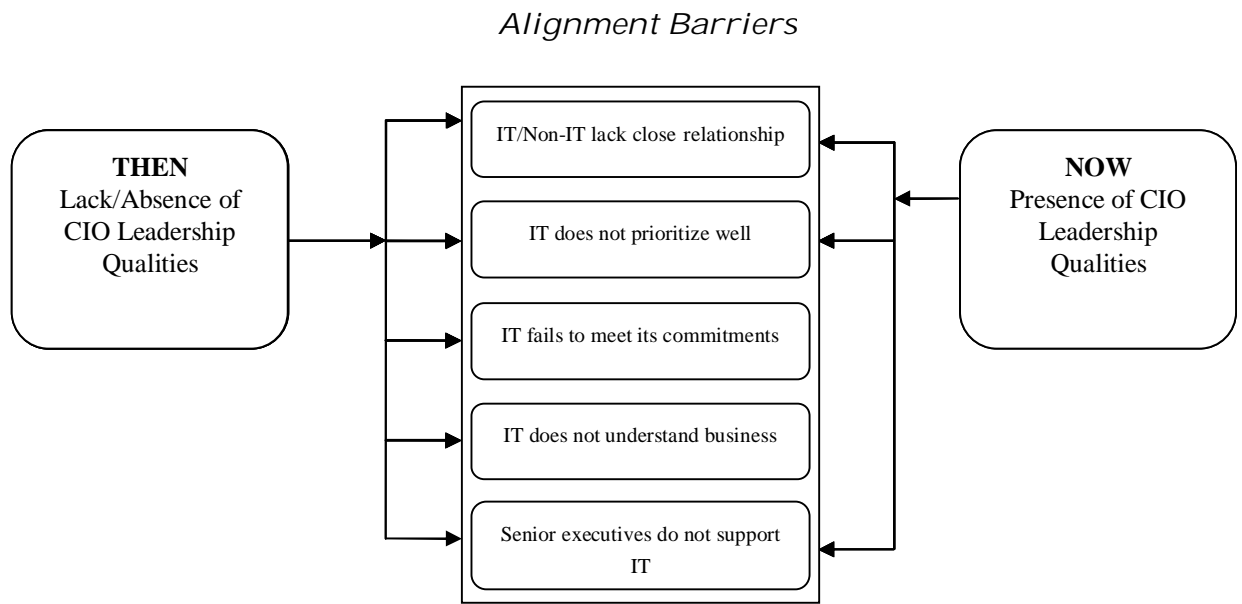


Table 11 A diagrammatic representation of the alignment barriers “Then” and “Now” - Author’s Perception

IT fails to meet its commitments is the third of the alignment barriers. More often than not, IT has been blamed for its inability to meet its commitments. These failed commitments are either project cancellations, budgets that are over and above expectation or delayed projects. This attitude has resulted in lack of interest from the business side and has had an effect on the financial support given for IT departments. All the CIOs interviewed complete most of their IT projects on time. About half of them have completed around 80% to 90% of the time and the other half about 70% of the time. The times that they have been unable to meet their commitments had nothing to do with lack of funds. The various reasons that were given for the few delays that have occurred were having too much on their hands at a time, business project leaders sometimes failing to submit proposals or certain details of their proposals on time and sometimes the effect of changes in law. Despite the reason for their inability to complete their commitments on time, they find themselves blamed for this. Measures have been put in place such as shared project ownership, steering committees for project

which are represented by different business functions and the shared ownership of IT projects. For this reason the problem of failure to meet IT commitments have been rated on a scale of grade one due to the discussions and reasons given by the interviewees.

The problem of business understanding IT and vice versa is being curbed by the renewed interest especially of IT in issues of the business. Not only is IT interested in the business' customers and competitors, it has gone further by showing interest in the business processes of the business side as well. Understanding the business processes, customers, employers, suppliers all has to do with the CIOs' ability to create network of people to be able to articulate feasible strategies. The involvement of the interviewed CIOs in brain storming, offering and receiving training both for the business and the IT department staff enhances such understanding. As it stands today, from the point of view of the interviewees, there is a better understanding and much more effort on the part of IT to do this. In the responses that the CIOs gave comparing the roles of CIOs a few years ago and the roles of CIOs today, it came out that today's CIO who is only involved in the technical operations of the business cannot survive and will be out of business in no time. There is no longer a place for the CIO who has no vision for the business. The interviewees have either had business backgrounds or actively involved in business/IT strategy formulation and usage or both. For this reason the existence of this problem is minimal. Rather the business side has to do more in trying to understand IT and its value and its importance to the business. So a grade of one was given by the author.

Another barrier which is the issue of "senior executives do not support IT" is also changing for the better. The dynamic leadership of the CIO helps him/her to maneuver their way somehow to get support from the top. Senior executives have not supported IT so much basically because of the perception they have had of IT. The perception of IT by business has been more of a liability rather than an asset to the organization, compounded by the huge percentage of company funds that go into IT with minimal visible results. There is increased publicity about how some organizations have been able to reduce cost and increased revenue through the deployment of IT. One of the CIOs mentioned that positive attitude of his CEO towards the use of IT helps him a lot

in its acquisition and use. This has clearly put the organization in the lead in its industry. Attitude change from the part of the top executives is a must in this regard. Another CIO mentioned that the vice president of their company has a lot of interest in IT and he is the one who usually puts issues of funding for IT to the board. Change by the top executives towards supporting IT is becoming positive but rather at a snail's pace. It's imperative that the "you deal with IT issues whiles we take care of the business side" attitude of top executives changes at a faster rate. This barrier was rated with a grade of three.

The tide has changed and CIOs are no longer dwelling in the past but are living in the present and what they can do for the future. The era where CIOs were technologist is over as a new day has dawned in their working lives. Leadership role which was not exercised by CIOs in the past has been partly due to absence of governance and partly due to lack of definition of what the CIO's role should be in the past. None of the seven CIOs is fully into operational IT work and either give directions on what to do or are kept updated when problems arise. Their work has become more strategic as they are actively involved in roles that help identify what is needed by their businesses and networking of people from all angles.

5.5. Other Findings

5.5.1. *Observations*

During the interviews I observed the following issues not in terms of an action or research on the part of the CIOs but what I gathered as being the situation on the ground:

- ✓ It became evident to me that "one size does not fit all". Even though the ideal situation would be for the CIOs to report directly to the CEO it was not always

so. Some CIOs were reporting to the CFO or COO or the VP and may be fine with it depending on the personality of the CIO involved and certain organisational structures such as corporate governance in place. There were concerns generally amongst CIOs as to who they report to and the powers they have.

- ✓ The longer a CIO has been in a particular company or organization, the less difficult it becomes for that CIO to push his ideas through to the business.
- ✓ The workload of the CIO is increasing over and above what could be imagined because a lot is expected of him in terms of operational delivery and competence, knowledge of the business and strategy formulation and development.
- ✓ The inclination of the CEO, the top management team or executive board like being IT pro or fan helps in facilitating the CIO and organization's IT roles.
- ✓ The informal relationship and structures in the business environment works well because it saves time during formal meetings and also helps the different parties to discuss issues in a more cordial way thereby improving communication and the understanding of each other i.e. business side and IT side. In effect CIOs use cohesion tactics and other forms of informal relationship building to get things done in the company.
- ✓ CIOs today are actively involved in different steering groups and extended management teams under different names. Most of these teams represent the board or have some of the board members either chairing or being part of the team. This in a way helps CIOs to build relationships with the top management team through these regular meetings.

5.5.2. *Hindrances to the Smooth Running of the CIOs' Faculty*

The CIOs that were interviewed were asked about what hinders the smooth running of their faculties or departments. Below are the summarized responses of all the seven CIOs interviewed :

- ✓ CIOs need time and the full organization behind them. That means spending time with their employees in coffee corners session, even lunch and breakfast, In other words being close to employees so that they are fully behind you is important.
- ✓ Too many things in the CIOs plate that needs to be executed at the same time and this needs to be balanced for that matter. Secondly, the limited amount of resources that involves having to develop one thing just about the same time that you have to finalize the other is a problem. This situation involves dealing with a company that is operating in over fifty countries with over five hundred and fifty locations.
- ✓ The challenge the CIO faces or sees at this moment is the complexities of big organizations and this same complexity is a cost driver in itself. The other challenge is the rapid changing of the world around us. The financial crisis had its impact on the business environment and the recent unrest in North Africa. One of the challenges for CIOs and the IT organization has been the consolidation of businesses. A software counterpart that you deal with today will be taken over the next day and this comes with its accompanying different business practices.
- ✓ One of the challenges facing the CIO is that the company is operating in almost 27 countries. There is competition from similar companies with the risk and challenges of not being able to cover all ones customer needs throughout the business. There is also the option of identifying your important operating countries and focusing and providing good services in order to satisfy most of the customers.

- ✓ The CIO personally feels that companies could get more value out of IT by taking IT to be part of the managerial agenda and ensuring that all areas are part of the managerial agenda. IT department cannot provide good enough value to the business if they don't know what business is doing. The CIO has it on his agenda to really make IT part of the daily business of the organization and help with the better understanding of what is needed.
- ✓ Business should be more involved in IT. It is not the best either if IT does not understand the business. There is a positive correlation between companies whose top management are IT oriented and understand IT well and their profit as against those who do not. Most of the time when top management are not oriented in IT issues they tend to push it away as belonging to the IT people.
- ✓ The CIO is a leader who inspires people, be it managers or subordinates. He has a holistic view of issues relating to his job. Even though he knows and follows what goes on in IT he is getting more and more interested in the business side.

5.5.3. *The CIO Today*

This was what the CIOs had to say about the CIO role today and CIO roles a few years ago. The “Now” in this context refers to today’s CIO and the “Then” refers to CIO roles 10 years to 20 years ago.

CIOs Now and Then

- ✓ “There were more problems 8 years ago, but fewer problems now when you know everybody. I think that comes with the kind of seniority you get when you meet enough people”.

- ✓ “I think the traditional CIOs are still technology driven, they know the technology in details and in something like five years time I do not think CIOs will have a very strong role in the operational model but in the business strategies and the ways the companies are operating. Now I think that the CIO roles are less about the technology because technology is becoming pretty standard and you can buy it. The role is more in the business integration and business alignment and is more in the change management as well.
- ✓ “The CIO role is also about how you lead your business stakeholders, how you guide them into right direction, how you challenge them and how you lead and challenge your suppliers as well. Today’s CIO need not only focus on what your business or your industry is doing but needs to think about what other industries are doing and how you can leverage something from there”.
- ✓ “To be honest if I compare this role today and the CIO of my former place of work in the same industry 20 years back, I think the CIOs back then were very much technical. Today’s CIO has to be more and more into strategy, development, alignment of business and IT etc. to be able to stay in business as being just a technical person will kick you out of business. I think that it is better for the IT developers to get closer to the business people as well. With IT being a big resource of our customer base and taking a bigger share of the company’s pocket, it is important that the business interest in IT increases more and more in the future”.
- ✓ “The CIO role has definitely changed as you go through different stages in the CIO’s life. One is a functional CIO who is looking at the systems performing, managing vendors, making sure that cost and budget are under control, then move on to helping the business to transform by creating change for their enterprise and the third level from my point of view will be being part of business strategy, innovation, and being part of external phasing of business”.

- ✓ “In comparing the roles of the CIO today and that of five years ago, everything has to be much quicker because the cycle is becoming shorter and technology is changing faster which is a bigger threat. The demand on the CIO today is that he has to be available and accessible 24/7 with technological advancement such as providing email access on mobile phones and network connections and even in some of the airlines”.

- ✓ “Today’s CIO needs totally different skills than it was 15 years ago. He or She needs to have very strong leadership skills with a good understanding of the business. A CIO who is technically-oriented and without an understanding of the business and its needs will not cope. Not only does the CIO need to change in this regard, the business as well needs to have a change towards understanding IT well”.

5.6. Summary of the Chapter

CIOs have a lot on their plate regarding their responsibilities towards the business. They deliver on their operational competencies and much more on contributing to the business. Most CIOs today have mastered or are mastering the art of leveraging IT for the business through understanding the business and helping it to achieve competitiveness. The CIO today understands the leadership qualities associated with their titles and are not only delivering on operational excellence but exercising qualities of setting directions, aligning people and motivating and inspiring people. CIOs are ready and willing to do more and it is up to the business executives to accord them necessary support and privileges that go with exercising their full potentials.

The nature of the CIO’s job seems to be such that he/she has to handle many projects or issues concurrently. They need the full backing of the executive board and closer cooperation with them in terms of being part of strategy development and planning from the initial stages of organizational goal setting. Besides, business needs to put in more

effort in trying to understand IT and not to shove it aside as those who work closely with IT from the beginning to the end achieve greater benefit from the use of IT.

6 CONCLUSION

This last chapter concludes the findings of the study. The initial part talks about the general overview of the interview with section 6.1 analyzing the results. Implication of the study is discussed in section 6.2 while the validity, reliability and generalizability of the study is discussed in section 6.3. Recommendations for future research are described in section section 6.4.

The study aims at finding the existence of the leadership roles originally engrained in the CIO title which makes him/her more of a strategic visionary than a technical oriented person, and to examine the impact of the leadership characteristics of setting direction, aligning people, motivating and inspiring people in reducing or eliminating the inhibitors of strategic business-IT alignment. A qualitative method was used in this explanatory case study with the three leadership characteristics as the presumed causal links for reducing the barriers to alignment. This method helped in gaining new perspective on the existing role of the CIO which much was known already. There is growing IT ownership and awareness from the business side and more needs to be done from the business side. It takes two to tango and since CIOs are not the top executives of their respective organizations, attitude change from the side of the business will help in reducing the barriers to alignment such as communication problems and business understanding of IT. There is the need for business especially top executives to come out of their shell and embrace IT in its entirety since IT has become the main means of doing business and cannot therefore be shoved aside. If there is any limitation from the CIOs in the delivery of their responsibilities then it's because business has given them limited powers to operate within. The operating boundaries and powers of the CIO have to be extended for business to derive the maximum benefit from CIO capabilities.

Today's CIO is effective in the delivery of his responsibilities. They understand the leadership qualities that come with their title and have what it takes to deliver. The new CIOs are more than ready for any challenging tasks that lie ahead of them. They are energetic and optimistic about their roles and responsibilities and willing to work closely with the top executives to move their organizations forward. There is positive correlation between those organizations who have embraced their CIOs into their

planning and strategy formulation from the onset. Those who reap the benefit of IT most are those who work closely with CIOs.

The key to minimizing the alignment barriers seems to lie with the business side as they have the mandate to allow the CIOs in. The CIOs are clearly effective in their leadership role of setting-direction, aligning people and motivating and inspiring people. Business and IT of the companies under this study are aligned and there is cooperation between the two sides. However companies need to work towards and move past the level of Business and IT alignment to a level of competitive differentiation where IT looks beyond its immediate business needs, considers technology trends and competitive landscape to play proactive role in shaping business strategy (Craig et al., 2007).

6.1. Analysis of the Results

The CIO of today understands the leadership qualities originally engrained in the CIO position when it was created and they are doing all they can to exercise it. According to Gottschalk (2007) to be successful at the executive level, CIOs need to be a good leader, have good communication skills, the ability to think strategically and have an understanding of business processes and operations.

All the CIOs interviewed have a better understanding of the business and its processes and how best they could use IT to leverage the business. CIOs alone cannot achieve this and need a greater support from the business through their understanding of IT. Technologically inept business executives often push IT issues aside sometimes with the excuse that “you take care of the IT issues whiles we take care of the business” but things do not work out that way and this attitude leaves businesses unable to exploit IT fully for a competitive lead.

CIOs in the studied companies do not report directly to the CEO, however they report to either the CFO, COO etc. but are also part of other management groups that are involved in the decision making process. Unlike previously when the CIO will be told that a decision has been taken on an issue or project which they have to carry out, that

kind of situation is changing for the better with due respect being given to the CIO. Today most CIOs are part of the decision making process. Due process is followed and due recognition is given to the CIO because of proper corporate and IT governance in place. Business today knows that the CIO cannot just be ordered around as well as the IT staff. For some of the firms no one can give the IT staff jobs to carry out directly except through the CIO.

The CIOs clearly have the abilities and capabilities of a leader in setting directions, aligning people and motivating and inspiring people. The CIOs based on the governance structure in place and room given to them to operate are able to set directions by articulating feasible strategies whether created by them or imposed on them to produce change that can be translated into realistic competitive advantage. The CIOs who are part of the TMT that sets strategic goals for the business from the onset are more often than not able to establish teams that follow through the alignment process which helps in maximizing the enablers and minimizing the inhibitors. The processes are not followed religiously since the solution to the barriers is inter-dependent. The wise move of a closer relationship between the CIO and CEO facilitates the minimization of the barriers.

The CIOs are able to work with their colleagues and other stakeholders to communicate the vision and create networks of people to achieve this. CIOs build relationship more than anyone else in the organization as the nature of their jobs call for that. Their roles cut across functions both vertically and horizontally and make them the nerve of their organization. There are situations where CIOs have had to work with customers by taking feedback from them, advising them and working with them to achieve business goals and clear lead in their industries. There are other situations where CIOs act as public relation officers representing the business and selling the business to the public to enhance the image of the business. These and many others go a long way to increase the profitability of the business.

The CIOs motivating abilities and inspirational skills cause them to coach their IT staff and even others from the business who needs coaching to understand IT in both formal

and informal settings. They provide feedback to staff to know what is going on, where they have reached and what they need to better their skills.

CIOs have had the occasion of meeting staff on one-on-one basis to provide guidance and offer opportunities to staff through identifying their skills and motivational levels. The CIOs have different personal characteristics that help them to push through ideas with different levels of successes. Through their innovativeness some of the CIOs have been able to transform their businesses and business model using technology to embrace changes as technology renders some of their business models unusable and unprofitable. In such instances the CIOs have acted as product developers.

In trying to bridge the gap between IT and Non-IT executives, a closer working relationship which can come from the business side by first and foremost including IT in the formulation of business goals from the onset should be initiated. Further, receiving support and funding for IT projects from top executive could help. With the direction setting capabilities of the new CIO, IT can and should be able to prioritize well if business allows IT to be fully leveraged for the business and by so doing be able to deploy IT strategies in a timely way and ahead of competitors. However, from the interview the author gathered that not all the organizations can take a clear lead with their IT irrespective of the kind of support they receive from business due to the nature of the business.

Lack of closeness between IT and non-IT executives have a direct impact on how well and the timeliness of the delivery of IT commitments. When IT is not included in strategy development and business shoves IT issues aside, it affects the sponsorship of IT projects as business does not provide clear leadership in that area and the funding of those projects become limited. This attitude translates into opportunities that are missed in meeting deadlines and innovative use of IT.

Today's CIO has a better understanding of the business and plays quite a number of roles in the business. The lack of leadership from IT seems to have been a thing of the

past when IT was relegated to the background to provide supporting role on technical and operational excellence.

6.2. Implications of the Study

The purpose of the study was to find out about the existence of the CIO leadership characteristics and the impact of those characteristics on the barriers to alignment. The following suggestions are offered to top executives of organizations and to governments:

The CIOs have evolved into business strategist and as a result of that they should first and foremost be given a place in the boardroom to be able to demonstrate their full potentials to the business as anything else is a waste of both organizational and the CIOs human resource. An active participation of the CIO towards having a say in the strategic decisions of the organization in today's competitive world is overdue.

Secondly the contemporary CIOs' job cuts across all functions of the business, both horizontally and vertically and in order for them to be able to meet their full potentials, the technical aspects of their jobs should be relegated to the position of a CTO so that they can fully concentrate on their strategic abilities to deliver value to their businesses. A well defined job roles and responsibilities for the CIO could bring security and stability in the turnover rate of CIOs.

The time for business to be more interested in IT is rife. The blame has previously been on both sides not understanding each other (culture gap) but the tide has turned now. CIOs have increasingly become interested in the business which is enabling them to perform their strategic roles. It's about time that top executives became more interested in IT so that both sides could speak the same language and the maximum benefits to be derived from IT could be gained for the business.

Governments should be duly informed that there is maximum benefit to be derived from the contemporary CIO as failure for them to deliver translates into lower profits for organization and the consequent reduced taxes paid to governments for development. A policy that mandates organizations to elevate the role of the CIO to the C-level suite where they become active members of the board of their organizations could be of immense help and impact economic growth positively.

6.3. Validity, Reliability and Generalizability

A good qualitative study can help us “understand a situation that would otherwise be enigmatic or confusing” (Eisner 1991, p.58). In trying to achieve the validity of the study, there was careful planning based on well structured and carefully selected materials from previous research which formed the basis of the literature review.

The interview questions were set based on elements from well established frameworks for assessing levels of alignment and cycles of alignment. All the questions were clearly categorized under the three leadership characteristics of Kotter. Interview guides were sent to the interviewees prior to the interviews to ensure that both the interviewer and the respective interviewees were in sync with each other. This ensured that the interviewees had a proper understanding of the issues under discussion and on which they are being interviewed.

Lincoln and Guba (1985) states that: "Since there can be no validity without reliability, a demonstration of the former [validity] is sufficient to establish the latter [reliability;]" Patton (2001) with regards to the researcher's ability and skill in any qualitative research also states that reliability is a consequence of the validity in a study. Yin (2003) suggests the use of case study protocol as a way of ensuring a reliable case study. A comprehensive case study protocol that was followed in this research or study is mentioned in section 4.3. With the ability and skills required of a researcher, the researcher, based on the initial prior studies on the inhibitions of business and IT

alignment, the evolving roles of the CIO and the impact of the three leadership characteristics on CIO effectiveness, categorized the research questions into three. Each of the three sub-sections represented the three characteristics of setting direction, aligning people, motivating and inspiring people as they were the characteristics being used in measuring the effectiveness of the CIOs.

The concepts of leadership characteristics and the inhibitions of alignment were evaluated based on how the dimensions under each of the three characteristics could impact each of the alignment barriers as they are exercised in the organizations today. Using information that was used in deriving at the alignment barriers, a comparison of the era in which businesses were at the time and the changes that has come about as a result of fast technological changes were made to reflect the situation of the realities on the ground today.

Seven CIOs of reputable companies listed on the stock exchange of their respective countries were interviewed even though a greater number of interviewees would have added or improved the level of generalizability. However because the unit of analysis is an individual, the CIO, the seven of them interviewed could prove useful in this regard. The companies were companies with advanced deployment and use of IT. One of the limitations in the study was language barrier. Most of the companies that were sent emails gave various reasons for their inability to grant the interview which the researcher interpreted as language barrier as one of the interviewee asked whether the author would like to have the interview in Finnish or English language. Because of this limitation, the author had to go ahead with the CIOs who were willing to have the interviews in English. This limited the number of companies to interview as well as the industries from which they would have been selected as this would have been helpful in knowing the organizational structures in place and how they affect the discharge of their duties. These variations could also help in knowing how the various needs of companies at any point in time influences the role (operational, transformational, strategist) that CIOs play at any level. Also interviewing CIOs alone on how they assess themselves could have an impact on the final results as no CIO will like to paint himself “black” as

an ineffective leader. One of the limitations was the fact that all the interviewees are men with no woman CIO amongst the lot.

6.4. Recommendations for Future Research

CIO issues and research is an evolving study area that is attracting lots of attention and research work. The leadership qualities of the CIO have been in doubt for long and have been believed to be a cause of their role failures. The nature and cost of IT related resources are exorbitantly high and needs sustained interest and careful attention from the business side.

The research looked at the barriers of business and IT alignment and the role that the leadership characteristics of the CIO engrained in the title from the onset could play in either eliminating the alignment barriers or reduce them. Previous research have looked at various issues regarding either business and IT alignment, the critical success factors of alignment, alignment barriers or inhibitions or the changing roles of CIOs. But none of the previous research has taken a look at how the leadership characteristics of the CIO could impact the barriers to business and IT alignment.

Dimensions such as the effect of CIOs with pure business background in optimizing the use of IT could be looked into. It became evident that a call for CIOs with pure business background is on the ascendancy and as such a research that makes a comparison between CIOs with business background against CIOs with IT background could be beneficial to companies in measuring the effectiveness of this kind of move.

A case study similar in nature could be conducted in order to find out and measure how the business side also perceives the role of the contemporary CIO in the business environment. This study could prove useful especially to CIOs in knowing how the business measures their impact on the organization.

Furthermore there could be a study where a careful selection of companies of different sizes either within a particular industry or across industries is interviewed for comparison. This could enable the business community in general to have an understanding of some of the factors that affects the roles of CIOs depending on which organization or industry they are working for and as to whether those CIOs find themselves in a peculiar situation. Another study could be a comparison between the leadership roles of CIOs of smaller to medium-sized companies and bigger companies.

Lastly, in order to derive the full benefit from a study that requires a face-to-face interview in Finland, the author would recommend an author who has either a Finnish or Swedish speaking background to either team up with a non-Finnish speaking person or pursue this alone.

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APPENDIX 1 INTERVIEW QUESTIONS AS A GUIDE

Background Information

Work experience (years)

Are you part of the top management team?

Who do you report to? CEO/ CFO etc.

How does the business people (non-it managers) perceive the value of I.T.?

Is your job routines strategic, technical or both in nature?

DIRECTION SETTING

1. How close is the working relationship between the CIO and CEO & between the CIO and other peers?
2. Are you part of the management team that sets strategic goals for the business?
3. Are you able to work with the top management team to identify what is needed by the business? How easy is it?
4. Do you have cross functional teams when it comes to organisational goals where I.T. is represented? And how involved are you in strategy development?
5. How does your understanding of the clear goals of the organisation help you in the choices that you make in respect of technology acquisition to achieving those goals?
6. How has your understanding of your organisation's business helped you in the creation of a vision for the organisation?
7. Has the process of brainstorming during team formation helped both business and I.T. to understand each other?
8. What is the level of I.T. and business awareness in the organisation?

9. Through which medium is I.T. related issues communicated to the business executives?
10. How much time is spent on educating the rest of the business about the strategic importance of I.T. and how is it done?
11. How easily are you able to put forward new ideas to the top management team for implementation support?
12. How far are you able to convince peers to accept the vision created if there are doubts on their minds?
13. Are you able to deploy I.T. opportunities strategically and faster than competitors?

ALIGNING PEOPLE

1. How are you able to interact with the CEO to understand the vision?
2. How closely do you work with colleagues to identify what is needed to achieve the vision and strategies to attain competitive advantage.
3. How do you liaise with peers, customers and suppliers to understand and help implement the strategy?
4. Are you able to identify those who oppose your strategies?
5. Have you ever faced opposition in I.T. strategy implementation? How often and how did you solve the issue?
6. How are you able to convince the nay-sayers to stick to their commitments of implementation when you are convinced that it is the right thing to do?
7. Are some of the board members active in such I.T. strategy committees?

MOTIVATING AND INSPIRING PEOPLE

1. How do you motivate and inspire I.T. team members to carry on with their duties?
2. What kind of brains do you hire for the job? Do you provide on the job training or hire directly from the job market?
3. How do you overcome major obstacles to I.T. implementations?
4. Do you use previous I.T. success stories or other stories to reassure executives about it strategies and implementations?

5. Do you regularly involve others members of staff in deciding on how to achieve the vision?
6. How often do you coach and receive feedback from employees/team members on I.T. implementations?
7. Are you able to take tough decisions and stand by them when you are convinced that it is the way forward?
8. How actively involved are you in the technical aspect of the tasks or implementation?
9. Do you reward staff when they innovate on the job or are able to turn problems into opportunities or able to complete tasks on time?
10. Does the I.T. staff feel that they are an important part of the organisation? How do you contribute to the way the feel?
11. Are you able to get team members to own the projects whiles emphasising on team work? If yes, how/ if no why not.
12. How often is the I.T. team able to complete tasks on schedule?
13. Does the top management team view I.T. implementation and outcome as shared responsibility or only for the CIO?
14. How do you describe yourself?